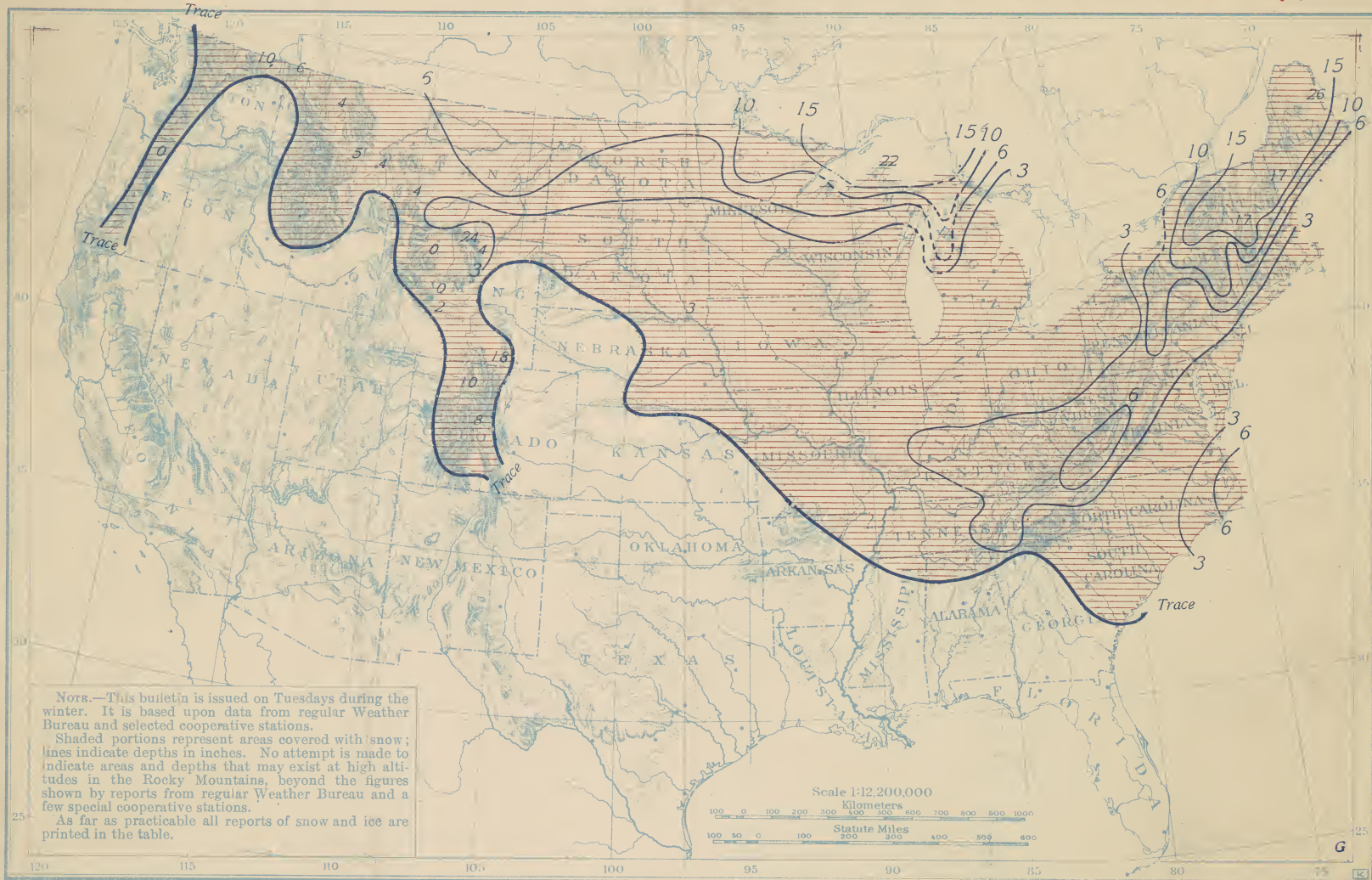


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SNOW AND ICE BULLETIN.



WASHINGTON, D. C., January 2, 1918.

DEPTH OF SNOW AND THICKNESS OF ICE AT 8 P. M., DECEMBER 31, 1917.

GENERAL REVIEW OF THE WEATHER DURING THE PAST WEEK.

Severe cold has marked the weather of the week just closed over the northern and central districts from the Rocky Mountains eastward. At the beginning of the week high pressure was central over the Dakotas and the temperature was falling rapidly over a wide area from Texas northeastward to the Lakes. By Wednesday morning the cold had extended to the north Atlantic coast, but cloudy weather with local rain or snow had interrupted its progress over the southeastern States, and in the far Northwest a storm of considerable proportions had moved inland from the Pacific. During Thursday a second high pressure area moved into the Canadian Northwest, and by Friday morning it had advanced into the Missouri and upper Mississippi Valleys, with a marked fall in temperature, particularly in the upper Lakes region. This cold area advanced slowly eastward and southward, and by Saturday morning freezing weather had extended to the west Gulf coast, and temperatures from 20° to nearly 40° below zero prevailed in the middle Missouri and upper Mississippi Valleys. During the remainder of the week cold weather continued over most eastern districts, especially in New England and portions of the Middle Atlantic States, where some of the lowest temperatures ever recorded in those districts were reported.

At this writing a storm that developed in the Northwest at the close of the year has moved to the southeastward and is now central in the lower Ohio Valley, accompanied by general snows from the Lakes region to the south Atlantic coast, with indications of the snow area extending into the more eastern districts.

DEPTH OF SNOW.

In the absence of any widespread storms during the week there was but little increase in the depth of the snow cover over that reported a week ago, although a considerable area in the middle West now has a slight covering that was then bare. Due to light falls at intervals during the week, that have remained unmelted, there has been a slight increase in the depths where snow covered the ground last week in all districts from the Rocky Mountains eastward, except in portions of the northeastern States where some snow melted early in the week. In the Rocky Mountain region and thence westward there has been a general reduction in the depth of the snow cover in the elevated regions and the lower levels still remain bare.

The apparently entire absence of snow, even in the higher elevations of the Sierra Nevada and other mountains of the Pacific States, as well as those of the central and southern Plateau region, at the beginning of January is most unusual and probably without precedent in the period of reliable observations in those districts.

A slight covering of snow over the central and eastern portions of the winter wheat-growing States has afforded some protection to the fall-sown grains, but over the western districts there has been little or no protection from the severe cold of the past week.

ICE IN RIVERS AND HARBORS.

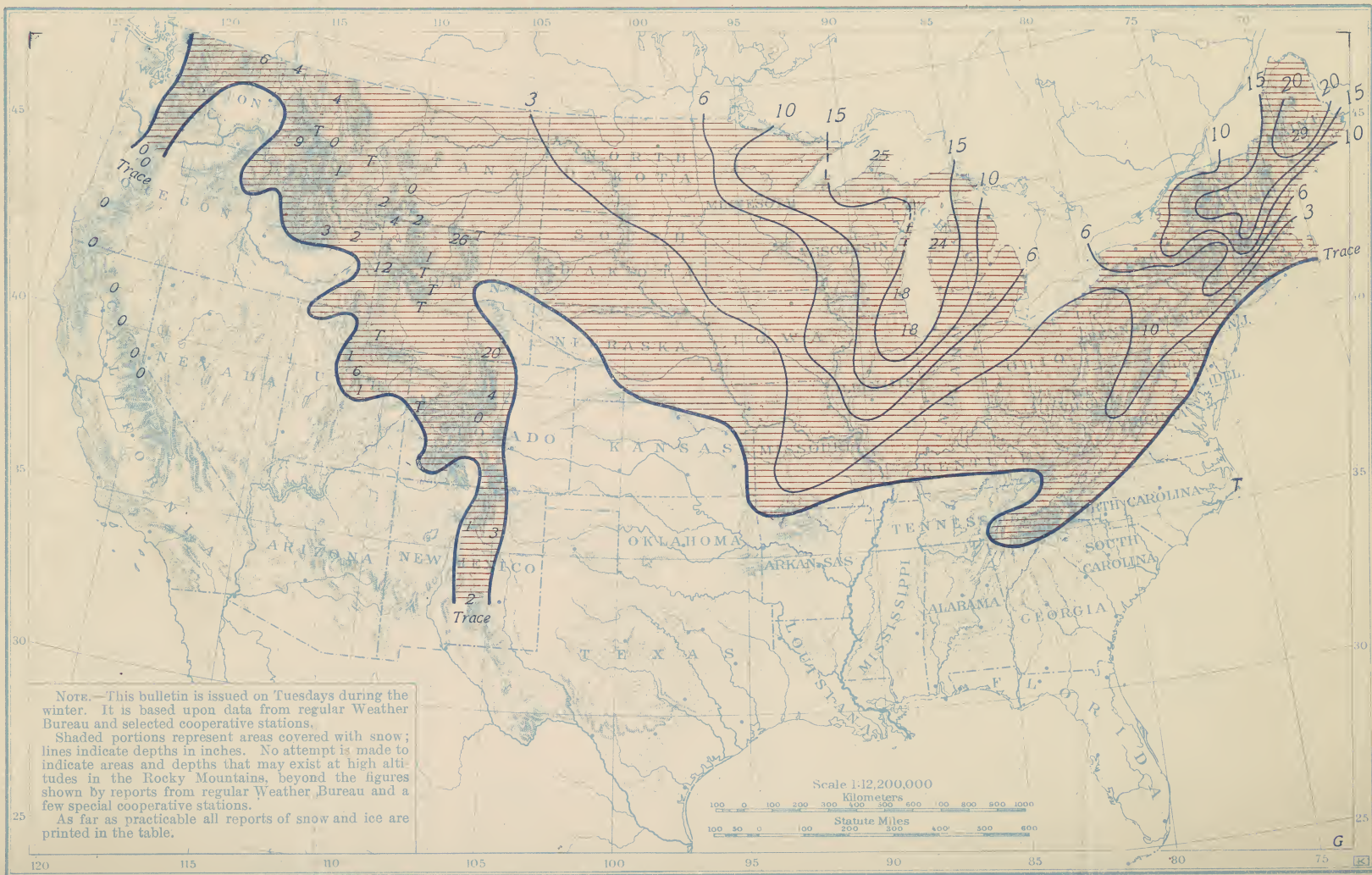
The severe cold during the week caused an increase in the amount of ice on practically all streams and lakes, where it was reported last week. Floating ice is now reported in the Mississippi as far south as Memphis, and the Missouri is heavily covered throughout most of its course. Gorges and heavy floating ice are reported in the Ohio, and some ice has formed on the larger streams as far south as western North Carolina. A good thickness of ice is now available in practically all districts where it is usually stored, and harvesting is in progress, under generally favorable conditions.

P. C. DAY, Climatologist and Chief of Division

Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.
Arkansas.	Inches	Inches	Michigan—Contd.	Inches	Inches	Ohio—Contd.	Inches	Inches
Little Rock.....	0	*	Calumet.....	22	.....	Dayton.....	2	2.5
Colorado.			Detroit.....	T.	12.0	Gallipolis.....	4	.....
Leadville.....	8	.....	Escanaba.....	4	15.0	Marion.....	1	.....
Steamboat Springs.....	10	.....	Grand Haven.....	1	.....	Sandusky.....	1	11.5
Connecticut.			Grand Rapids.....	1	.....	Toledo.....	T.	7.5
Hartford.....	6	15.0	Houghton.....	22	12.0	Warren.....	1	.....
New Haven.....	8	*	Iron River.....	7	.....	Youngstown.....	2	.....
Delaware.			Ironwood.....	14	.....	Pennsylvania.		
Millsboro.....	T.	.....	Ludington.....	7	0.0	Drifton.....	4	.....
Dist. of Columbia.			Newberry.....	16	.....	Emporium.....	1	.....
Washington.....	1	8.0	Saginaw.....	T.	9.0	Erie.....	2	8.0
Georgia.			St. Ignace.....	4	.....	Greensboro.....	3	.....
Augusta.....	1	0.0	Sault Ste. Marie.....	11	11.0	Harrisburg.....	4	14.0
Savannah.....	T.	0.0	Minnesota.			Lawrenceville.....	6	.....
Idaho.			Duluth.....	6	22.0	Mifflintown.....	9	.....
Ketchum.....	2	.....	Leech Lake Dam.....	14	.....	Philadelphia.....	1	3.0
Porthill.....	6	.....	Minneapolis.....	2	.....	Reading.....	2	1.5
Shake Creek R. Sta.....	3	.....	Moorhead.....	3	20.0	Seranton.....	T.	.....
Soldier Creek.....	2	.....	Roseau.....	6	.....	Somerset.....	4	.....
Vienna Mine.....	60	.....	St. Paul.....	2	13.5	Stroudsburg.....	8	.....
Illinois.			Wheaton.....	1	.....	Towanda.....	4	.....
Cairo.....	1	*†	Missouri.			Williamsport.....	6	.....
Camp Point.....	2	.....	Columbia.....	T.	.....	Rhode Island.		
New Burnside.....	2	.....	Hannibal.....	1	6.0	Block Island.....	T.	*
Peoria.....	2	7.0	Kansas City.....	T.	.....	Narragansett Pier.....	1	.....
Pontiac.....	2	.....	St. Joseph.....	T.	.....	Providence.....	T.	2.5
Springfield.....	1	.....	St. Louis.....	1	.....	South Carolina.		
Indiana.			Springfield.....	1	.....	Charleston.....	T.	0.0
Evansville.....	3	†	Montana.			Columbia.....	1	0.0
Fort Wayne.....	T.	.....	Findon.....	4	.....	Greenville.....	2	.....
Indianapolis.....	1	.....	Hat Creek.....	5	.....	South Dakota.		
Marion.....	1	.....	Helena.....	4	.....	Huron.....	1	17.0
Paoli.....	5	.....	Kalispell.....	4	.....	Pierre.....	1	15.0
Richmond.....	1	.....	Miles City.....	8	.....	Rapid City.....	T.	.....
Terre Haute.....	1	6.0	Red Lodge.....	T.	.....	Yankton.....	3	15.0
Iowa.			Nebraska.			Tennessee.		
Carroll.....	2	.....	Omaha.....	T.	14.5	Chattanooga.....	6	.....
Davenport.....	3	11.5	Valentine.....	T.	.....	Memphis.....	2	†
Des Moines.....	1	7.0	New Hampshire.			Nashville.....	2	0.0
Dubuque.....	1	12.0	Bethlehem.....	14	.....	Vermont.		
Estherville.....	2	.....	Concord.....	14	12.0	Brattleboro.....	14	17.0
Keokuk.....	1	9.0	Hanover.....	15	.....	Northfield.....	15	.....
New Hampton.....	2	.....	Keene.....	12	.....	White River J'n.....	17	.....
Pocahontas.....	1	.....	New Jersey.			Virginia.		
Sioux City.....	2	16.0	Cape May.....	0	6.5	Danville.....	1	.....
Kansas.			Sandy Hook.....	T.	.....	Fredericksburg.....	2	.....
Oketo.....	T.	.....	Trenton.....	1	12.0	Lynchburg.....	1	6.0
Topeka.....	T.	.....	New York.			Norfolk.....	3	.....
Kentucky.			Albany.....	2	9.0	Richmond.....	1	*
Beattyville.....	4	.....	Angelica.....	2	.....	Staunton.....	4	.....
Eubank.....	3	.....	Beaver River.....	14	.....	Woodstock.....	2	.....
Greensburg.....	4	.....	Binghamton.....	2	.....	Wytheville.....	8	.....
Lexington.....	5	.....	Buffalo.....	2	6.0	Washington.		
Louisville.....	2	0.0	Canton.....	3	.....	Laurier.....	10	.....
Maysville.....	4	.....	Cazenovia.....	13	.....	West Virginia.		
Mount Sterling.....	5	.....	Cooperstown.....	5	.....	Charleston.....	5	.....
St. John.....	5	.....	De Ruyter.....	14	.....	Hinton.....	6	.....
Maine.			Ithaca.....	5	.....	Huntington.....	4	.....
Bangor.....	14	20.0	New York.	2	.....	Parkersburg.....	1	.....
Cornish.....	17	.....	Ogdensburg.....	10	.....	Williamson.....	5	.....
Eastport.....	6	0.0	Plattsburg.....	10	.....	Wisconsin.		
Gardiner.....	11	12.0	Rochester.....	4	6.5	Ashland.....	6	.....
Houlton.....	26	.....	Rome.....	15	.....	Barron.....	5	.....
Lewiston.....	17	14.0	Roxbury.....	12	.....	Eau Claire.....	2	.....
Portland.....	6	0.0	Syracuse.....	3	.....	Green Bay.....	1	10.0
Maryland.			Watertown.....	3	.....	La Crosse.....	1	14.0
Baltimore.....	T.	*	North Carolina.			Medford.....	4	.....
Frederick.....	6	.....	Asheville.....	1	1.5	Milwaukee.....	T.	0.0
Massachusetts.			Raleigh.....	1	.....	Park Falls.....	6	.....
Boston.....	T.	.....	Winnington.....	4	0.0	Wausau.....	2	17.0
Concord.....	6	.....	North Dakota.			Wyoming.		
Fitchburg.....	11	.....	Devils Lake.....	5	.....	Buffalo.....	4	.....
Nantucket.....	T.	5.0	Williston.....	6	17.5	Dome Lake.....	24	.....
Turners Falls.....	16	.....	Ohio.			Sheridan.....	1	.....
Michigan.			Cincinnati.....	2	South Pass City.....	2
Alaska.			Cleveland.....	2	9.5	Yellowstone Park.....	1
Alaska.....	2	4.5	Columbia.....	3			

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SNOW AND ICE BULLETIN.



WASHINGTON, D. C., January 8, 1918.

GENERAL REVIEW OF THE WEATHER DURING THE PAST WEEK.

The week just closed was marked by a general moderation of the temperature over eastern districts, where severe cold had persisted to an unusual degree, and by the continuation of fairly warm weather in the central valleys and to the westward.

The storm referred to in the last issue as having moved to the lower Ohio Valley by Wednesday morning, pursued its rapid southeastward course, and by Thursday morning it had passed off the southeastern coast, whence it apparently curved sharply to the northeastward, and by Friday morning it had reached the coast of Nova Scotia as a storm of marked severity. The precipitation from this storm was generally light, and confined to the districts from the Lake region southeastward and mostly in the form of snow.

During the latter half of the week lower pressure prevailed over most districts, and by Sunday morning a storm of wide extent had moved from Texas to the middle Mississippi Valley, attended by general snows to the northward of the center and by rains to the southward. Within the next 24 hours the center had moved to the Great Lakes, attended by heavy snows and high winds in portions of the middle Mississippi Valley and to the northeastward, and by moderate to light rains or snows in most other districts from the Plains region eastward.

At the present writing the storm referred to above has moved to northeastern New England, but light snow continues at points from the Lakes region and Ohio Valley northeastward. In the Northwest light snow is falling at a few points and it is raining near the coasts of Washington and Oregon; elsewhere fair weather and moderate temperatures prevail, except over Southeastern States, where it continues cold.

DEPTH OF SNOW.

During the storm of the latter part of the week a heavy covering of snow fell from central Illinois northeastward over portions of Wisconsin and the Lower Michigan peninsula, the fall near the southern end of Lake Michigan ranging from 12 to 18 inches. High winds prevailed and much drifting resulted, greatly interfering with traffic. Over other portions of the Lakes region and adjoining districts the fall was much lighter. Some increases occurred during the week in northern New England and at a few points in the mountain districts from Colorado to southern Idaho, but elsewhere the depth of snow on the ground showed some reduction, particularly from Kentucky and Tennessee northeastward to southern New England.

A good snow covering now prevails over the winter wheat districts from Missouri and central Iowa eastward over Illinois, southern Michigan, and portions of Indiana and Ohio, but to westward of the Mississippi the ground continues bare over the great winter wheat sections, and the condition of the crop continues unsatisfactory, except in the North Pacific States where favorable weather has greatly benefited the crop and the outlook is much improved.

But little snow has accumulated in the Rocky Mountain section and practically no snow remains on the Sierra and Cascade ranges, or in any portion of the Plateau region. The continued absence of precipitation in southern California and other portions of the Southwest has resulted in serious drought conditions, while the absence of any appreciable snow in the mountains of those districts is most unusual.

ICE IN RIVERS AND HARBORS.

Over the northeastern districts considerable additional ice formed during the early part of the week, but in the remaining districts where ice had previously formed the increases were slight, due to the prevalence of more moderate temperatures. The weather has been generally favorable for cutting and storing and a plentiful supply is now being gathered in all districts east of the Rocky Mountains, where ice is usually stored.

P. C. DAY, Climatologist and Chief of Division

DEPTH OF SNOW AND THICKNESS OF ICE AT 8 P. M., JANUARY 7, 1918.

Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.
Arkansas.	Inches	Inches	Michigan—Contd.	Inches	Inches	Ohio—Contd.	Inches	Inches
Bentonville.....	1		Grand Haven.....	15		Beverly.....	2	
Colorado.			Grand Rapids.....	13		Cincinnati.....	T.	†
Denver.....	T.		Houghton.....	26	12.0	Cleveland.....	1	14.5
Dillon.....	4		Ironwood.....	18		Columbus.....	3	
Durango.....	0	†	Lansing.....	9		Marion.....	2	
Grand Junction.....	T.		Manistee.....	24		Sandusky.....	4	12.5
Connecticut.			Marquette.....	18		Toledo.....	5	8.0
Hartford.....	4	20.0	Newberry.....	17		Wapakoneta.....	3	
New Haven.....	2	0.0	Saginaw.....	9	10.0	Waverly.....	3	
Dist. of Columbia.			Sault Ste. Marie.....	12	13.0	Oregon.		
Washington.....	2	9.5	Minnesota.			Joseph.....	2	
Idaho.			Duluth.....	14	24.0	Sparta.....	6	
Mackay.....	3		Leech Lake Dam.....	16		Pennsylvania.		
Fort Ranger Sta.....	9		Minneapolis.....	3		Drifton.....	4	
Porthill.....	4		Moorhead.....	4	22.0	Erie.....	1	10.0
Spencer.....	2		Roseau.....	7		Greensboro.....	T.	
Illinois.			St. Paul.....	3	14.0	Greenville.....	2	
Cairo.....	T.	†	Thief River Falls.....	4		Harrisburg.....	3	16.0
Chicago.....	18		Wheaton.....	2		Hyndman.....	4	
Peoria.....	11	9.0	Winton.....	14		Mifflintown.....	10	
Springfield.....	9		Missouri.			Parkers Landing.....	1	
Indiana.			Brunswick.....	8		Philadelphia.....	T.	5.0
Evansville.....	T.	2.5	Columbia.....	4		Pittsburgh.....	2	†
Fort Wayne.....	4		Hannibal.....	3	8.5	Scranton.....	T.	
Indianapolis.....	1		Kansas City.....	1	*	Somerset.....	3	
La Fayette.....	4		St. Joseph.....	T.	†	Warren.....	4	
Marion.....	4		St. Louis.....	3	†	Rhode Island.		
Paoli.....	2		Springfield.....	4		Block Island.....	0	*
Terre Haute.....	3	†	Trenton.....	2		Narragansett Pier.....	T.	
Iowa.			Montana.			Providence.....	T.	4.0
Albia.....	5		Bozeman.....	2		South Dakota.		
Charles City.....	3		Helena.....	T.		Huron.....	1	17.0
Davenport.....	8	14.0	Kalispell.....	4		Pierre.....	T.	16.0
Des Moines.....	1	8.5	Miles City.....	2		Rapid City.....	2	
Dubuque.....	7	16.0	Red Lodge.....	2		Yankton.....	1	15.0
Forest City.....	4		Nebraska.			Tennessee.		
Iowa City.....	8		Halsey.....	T.		Chattanooga.....	T.	0.0
Keokuk.....	3	10.0	Lincoln.....	T.		Memphis.....	0	*
New Hampton.....	5		North Platte.....	T.		Utah.		
Pocahontas.....	2		Omaha.....	T.	16.0	East Portal.....	6	
Sioux City.....	1	15.0	New Hampshire.			Heber.....	1	
Kentucky.			Bethlehem.....	14		Kelton.....	2	
Beattyville.....	2		Concord.....	14	16.0	Mohrland.....	1	
Lexington.....	T.		Hanover.....	14.0		Vermont.		
Louisville.....	T.	0.0	Keene.....	12.0		Brattleboro.....	18	18.0
Maysville.....	2		New Mexico.			Burlington.....	6	*
Maine.			Clouderoft.....	2		Northfield.....	16	
Bangor.....	20	21.0	Las Vegas.....	3		Virginia.		
Cornish.....	18		Santa Fe.....	1		Lynchburg.....	2	6.5
Eastport.....	12	0.0	New York.			Norfolk.....	8	†
Gardiner.....	14	13.0	Albany.....	2	14.5	Richmond.....	T.	0.0
Greenville.....	24	20.0	Beaver River.....	14		Wytheville.....	2	
Lewiston.....	18	16.0	Binghamton.....	2		Washington.		
Millinocket.....	29		Buffalo.....	6	9.0	Laurier.....	6	
Orono.....	24		Canton.....	5		West Virginia.		
Portland.....	8	6.0	Cazenovia.....	12		Burlington.....	4	
Van Buren.....	17		Cooperstown.....	4		Parkersburg.....	1	*
Maryland.			De Ruyter.....	12		Wisconsin.		
Baltimore.....	T.	†	Ithaca.....	3		Fond du Lac.....	14	
Oakland.....	3		Lowville.....	8		Bay.....	14	10.0
Massachusetts.			Ogdensburg.....	10		ssse.....	5	16.0
Boston.....	1		Rochester.....	6	11.0	son.....	11	
Concord.....	5		Rome.....	10		ford.....	10	
Fitchburg.....	11		Syracuse.....	3		Ilwaukee.....	18	
Holyoke.....	7	17.0	Warwick.....	10		ark Falls.....	12	
Nantucket.....	T.	8.0	Watertown.....	3		ausau.....	7	20.0
Turners Falls.....	16	19.0	North Carolina.			Wyoming.		
Michigan.			Asheville.....	T.		Alta.....	12	
Alpena.....	8	7.0	Hatteras.....	T.	*	Cheyenne.....	T.	
Battle Creek.....	9		North Dakota.			Dome Lake.....	26	
Big Rapids.....	9		Bismarck.....	6	22.0	Dubois.....	10	
Cadillac.....	25		Devils Lake.....	5		Fox Park.....	20	
Calumet.....	16		Williston.....	3	18	Lander.....	T.	
Detroit.....	4	13.0	Ohio.			Sheddan.....	T.	
Escanaba.....	6	16.0	Ashland.....	1		stone Park.....	4	

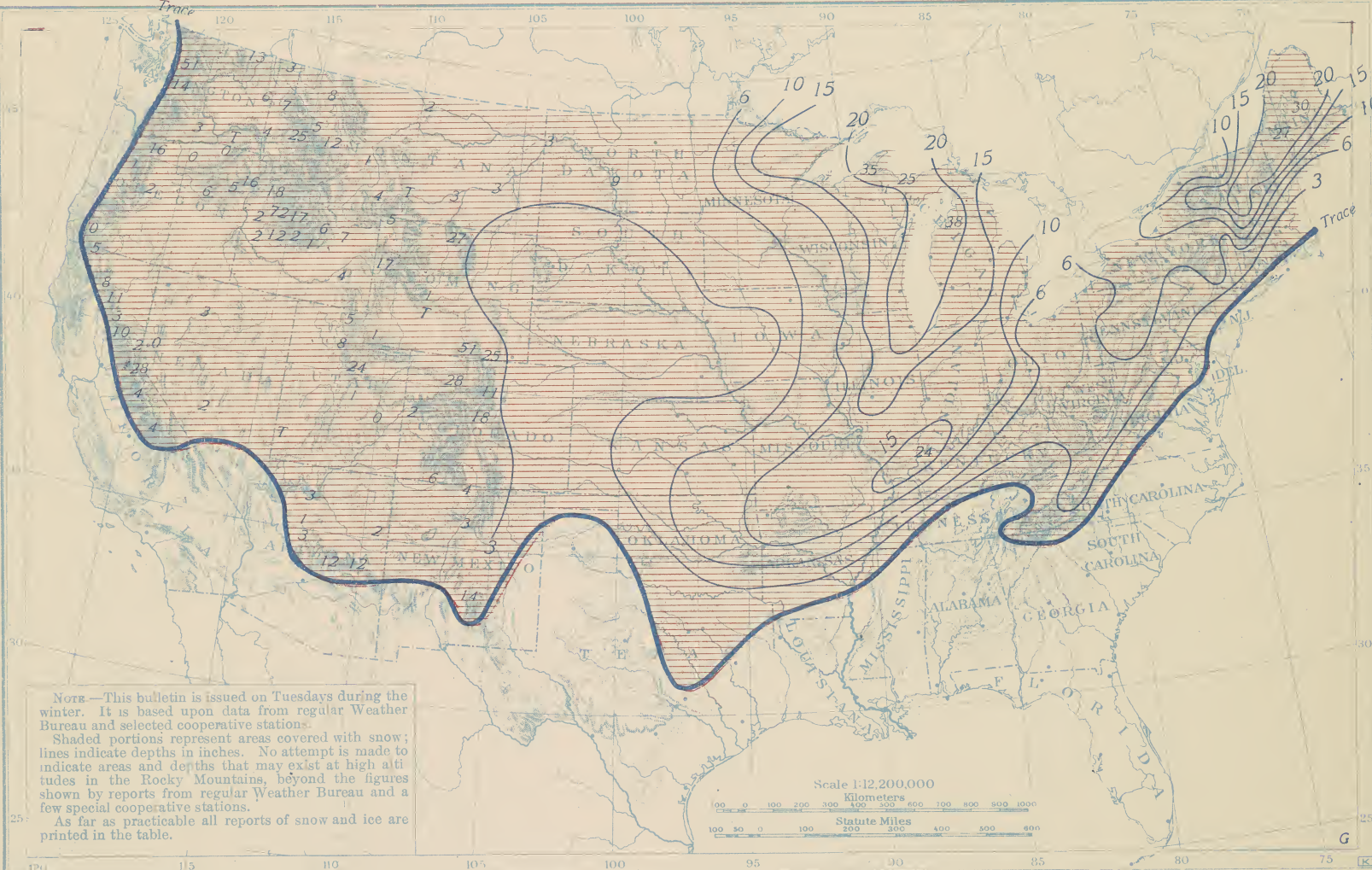
*Shore ice. †Floating ice. ‡Ice gorge

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SNOW AND ICE BULLETIN.



WASHINGTON, D. C., January 15, 1918.

DEPTH OF SNOW AND THICKNESS OF ICE AT 8 P. M., JANUARY 14, 1918.

GENERAL REVIEW OF THE WEATHER DURING THE PAST WEEK.

Changes in the weather were rapid and marked during the week just closed. At the beginning moderate winter temperatures prevailed over all districts, except in the Southeast where freezing temperatures had penetrated into northern Florida.

By Wednesday morning a cold wave of considerable severity had moved to the British Northwest Provinces, and unsettled weather with more or less snow prevailed over much of the Rocky Mountain and Great Plain districts. During the following 24 hours the cold wave spread rapidly to the southeastward and by Friday morning temperatures 5° to 10° below freezing prevailed along the Texas coast and zero temperatures had extended into the central portions of the State. At the same time a storm of considerable extent had moved into the lower Mississippi Valley, and precipitation, mostly snow, had overspread all districts from the Plains region to the Great Lakes, Ohio Valley, and middle Gulf States. By Saturday morning it had moved rapidly to the Lakes region as a storm of great intensity, and snow or rain had overspread practically all the eastern portions of the country, the snowfall being heavy in the Ohio Valley and portions of the Lakes region, while heavy rains prevailed over most of the Atlantic coast States.

During this period the cold wave had advanced into the Mississippi Valley and Southeastern States, and the coldest weather of the season prevailed over these districts during Saturday and Sunday. The storm in the Great Lakes region moved to the lower St. Lawrence Valley by Sunday morning and low pressure had overspread the Southwest with more or less precipitation from the Rocky Mountain region westward.

At 8 a. m. Monday another storm had advanced from the far West into eastern Texas, and by the close of the week it was central over Tennessee, attended by rains or snows, the snow being heavy at points in the lower Ohio Valley.

At the present writing the storm over Tennessee has moved to the middle Atlantic coast, and precipitation, heavy in the Ohio Valley, has occurred over all eastern districts, except extreme southern Florida.

Another storm appears to be forming in the Southwest, and light rain or snow has occurred during the past 24 hours over much of the far West, extending into southern California where severe drought has prevailed.

DEPTH OF SNOW.

There has been a general increase in the snow depths over all districts where it was reported a week ago, and considerable areas in the middle and southern Plains States and over the mountain districts of the West, bare heretofore, now have a moderate covering. In portions of Oklahoma and Kansas and thence eastward into the Ohio Valley the snow at 8 p. m. Monday ranged from 6 inches to 2 feet deep, and in portions of the Ohio Valley from 4 to 8 inches have since fallen.

In the mountain regions of the West there has been more or less snow during the week, and the lower elevations in most districts are now generally covered for the first time during the winter. In the mountains of California, Arizona, and New Mexico the fall during the week has been considerable, and the depths at the high elevations range from 10 inches to more than 2 feet.

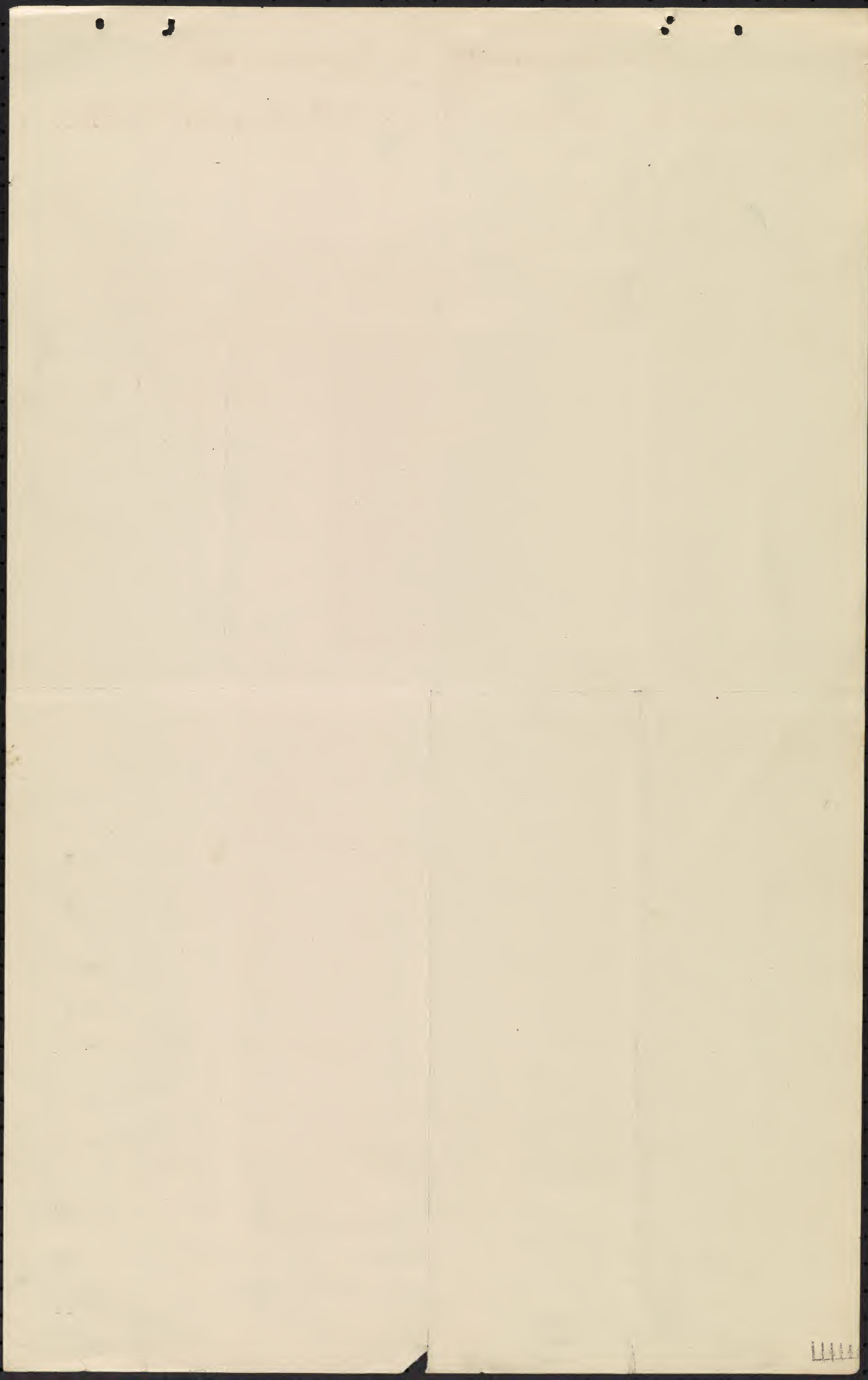
Over Oklahoma, Kansas, and Nebraska the present snow cover should greatly benefit the winter grain crops, which heretofore have suffered much from dry soil and exposure to the severe cold.

ICE IN RIVERS AND HARBORS.

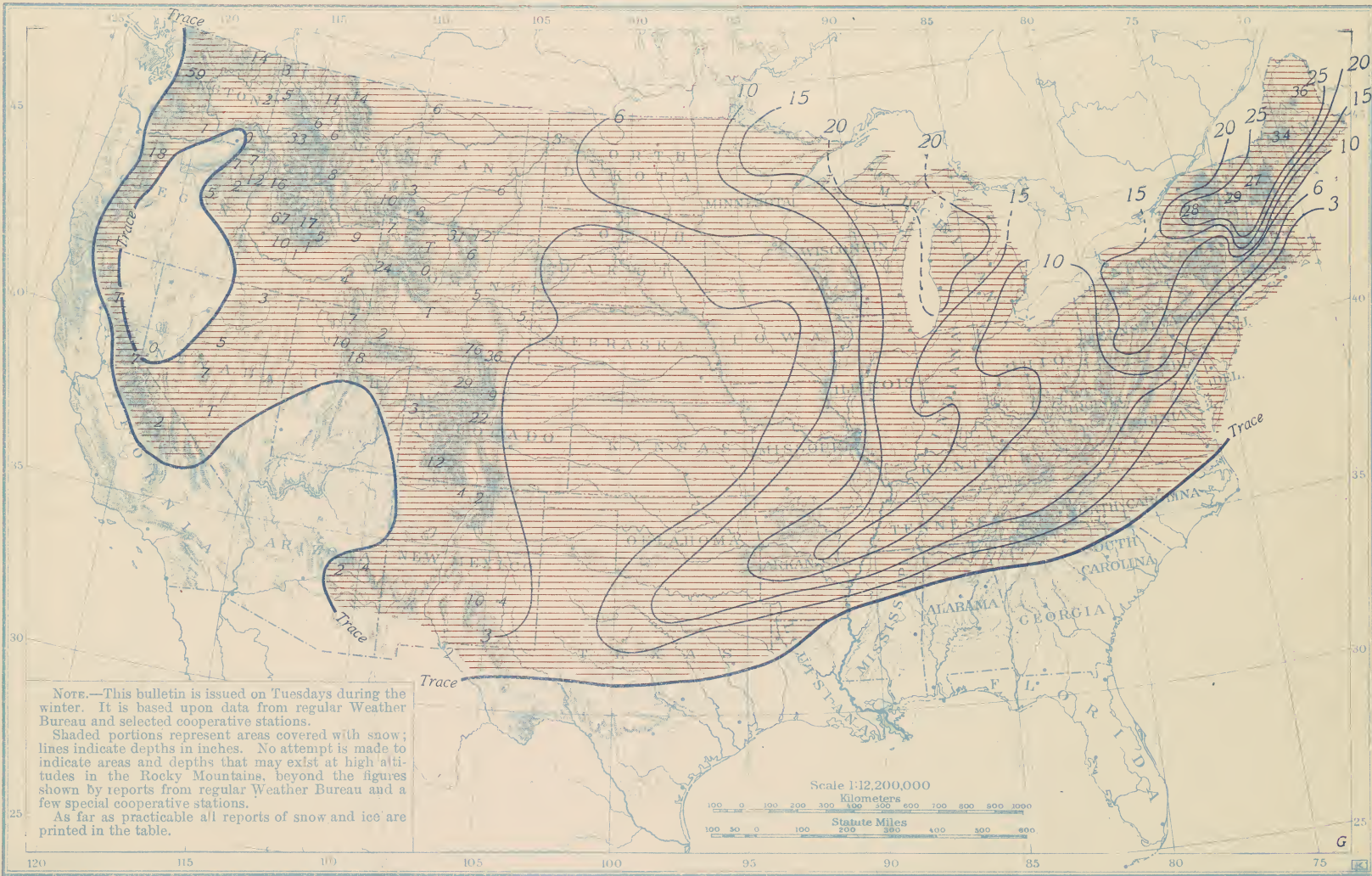
Continued cold from the Rocky Mountains eastward caused the formation of additional ice in all districts where it was reported last week, and a further extension southward into regions where it does not usually form.

Ice is now available for harvest in all districts where it is stored, and the quality over the more southern districts is unusually fine.

Stations.			Stations.			Stations.		
Snow.			Snow.			Snow.		
Inches	Ice in rivers, harbors, etc.		Inches	Ice in rivers, harbors, etc.		Inches	Ice in rivers, harbors, etc.	
Arizona.			Maryland.			Ohio.		
Carrs Ranch.....	12		Baltimore.....	T.	10.0	Cincinnati.....	7	†
Grand Canyon.....	3		Frederick.....	4		Cleveland.....	1	16.5
Pinetop.....	11		Massachusetts.			Columbus.....	12	
Arkansas.			Boston.....	T.		Dayton.....	11	5.5
Bentonville.....	10		Holyoke.....	5	20.0	Sandusky.....	4	15.0
Fort Smith.....	10	6.5	Nantucket.....	0	8.0	Toledo.....	10	10.5
Little Rock.....	6	4.0	Turners Falls.....	15	21.0	Oklahoma.		
California.			Michigan.			Oklahoma.....	6	
Huntington Lake.....	4		Alpena.....	14	9.0	Oregon.		
Inskip.....	11		Cadillac.....	26		Baker.....	5	
McCloud.....	8		Calumet.....	31		Gov't Camp.....	16	
Summit.....	28		Detroit.....	7	15.0	Hilgard.....	7	
Table Rock.....	4		Escanaba.....	8	20.0	Prairie City.....	6	
Colorado.			Grand Haven.....	22		Sparta.....	16	
Denver.....	2		Grand Rapids.....	18		Pennsylvania.		
Dillon.....	4		Houghton.....	35	12.0	Allentown.....	2	
Durango.....	6	†	Ludington.....	18		Drifton.....	4	
Grand Junction.....	2		Mancelona.....	38		Erie.....	1	14.0
Leadville.....	18		Marquette.....	25	8.5	Harrisburg.....	5	16.0
Steamboat Springs.....	28		Saginaw.....	18	13.0	Mifflintown.....	8	
Connecticut.			Sault Ste. Marie.....	15	16.0	Pittsburgh.....	2	2.0
Hartford.....	2	18.0	Minnesota.			Reading.....	2	
Dist. of Columbia.	T.	12.0	Duluth.....	13	27.0	Seranton.....	T.	
Idaho.			Fort Ripley.....	8		Somerseset.....	6	
Boise.....	2		Leech Lake Dam.....	17		Rhode Island.		
Lewiston.....	4		Moorhead.....	5	23.0	Block Island.....	0	*
Mackay.....	6		St. Paul.....	3	16.0	Providence.....	T.	4.0
McCall.....	18		Wheaton.....	16		South Dakota.		
Oxford Ranger Sta.....	25		Winton.....	16		Huron.....	2	21.0
Pocatello.....	4		Missouri.			Pierre.....	1	20.0
Porthill.....	3		Clinton.....	9		Rapid City.....	2	
Soldier Creek.....	12		Columbia.....	7		Ya Ikton.....	2	19.0
Spencer.....	7		Hannibal.....	8	10.0	Tennessee.		
Vienna Mine.....	72		Kansas City.....	5	*	Chattanooga.....	T.	†
Wallace.....	7		Rolla.....	8		Memphis.....	4	†
Illinois.			St. Joseph.....	2	†††	Utah.		
Cairo.....	18	6.0	St. Louis.....	7		East Portal.....	24	
Chicago.....	23		Springfield.....	10		Logan.....	5	
Peoria.....	12	12.0	Montana.			Salt Lake City.....	8	
Pontiac.....	20		Billings.....	3		Vermont.		
Springfield.....	16		Bowen.....	4		Bellows Falls.....	18	
Indiana.			Haugan.....	5		Burlington.....	5	*
Evansville.....	24	†	Hayre.....	2		Northfield.....	22	
Fort Wayne.....	11		Helena.....	1		St. Johnsbury.....	17	
Indianapolis.....	10		Kalispell.....	8		Virginia.		
Marion.....	12		Miles City.....	3		Buchanan.....	3	
Terre Haute.....	11	6.0	Missoula.....	12		Lynchburg.....	2	9.0
Iowa.			Nebraska.			Norfolk.....	0	†
Albia.....	6		McCook.....	2		Wytheville.....	5	
Charles City.....	3		North Platte.....	2		Washington.		
Davenport.....	11	18.0	Omaha.....	1	19.0	Cascade Tunnel.....	51	
Des Moines.....	T.	11.0	Nevada.			Laurier.....	13	
Dubuque.....	7	17.5	Tonopah.....	2		Spokane.....	6	
Iowa City.....	9		Winnemucca.....	3		Stampede.....	14	
Keokuk.....	6	14.0	New Hampshire.			Walla Walla.....	T.	
Sioux City.....	2	25.0	Concord.....	16	20.0	West Virginia.		
Kansas.			Hanover.....	16		Elkins.....	2	
Concordia.....	5		New Mexico.			Parkersburg.....	4	†
Dodge City.....	3		Cloudcroft.....	14		Wisconsin.		
Topeka.....	3		Santa Fe.....	3		Brodhead.....	17	
Wakeeney.....	4		Tres Piedras.....	4		Fond du Lac.....	15	
Wichita.....	6		New York.			Green Bay.....	17	11.0
Kentucky.			Albany.....	2	14.0	La Crosse.....	6	20.0
Bowling Green.....	10		Binghamton.....	4		Madison.....	13	
Hopkinsville.....	15		Buffalo.....	9	12.5	Milwaukee.....	23	0.0
Lexington.....	4		Canton.....	8		Wausau.....	7	22.0
Louisville.....	12	0.0	Oswego.....	12	12.0	Wyoming.		
St. John.....	12		Rochester.....	5	11.0	Cheyenne.....	1	
Maine.			Syracuse.....	6		Dome Lake.....	27	
Bangor.....	20	21.0	Warwick.....	8		Fox Park.....	25	
Eastport.....	11	0.0	North Carolina.			Lander.....	1	
Gardiner.....	13	17.0	Asheville.....	3		Sand Lake.....	51	
Greenville.....	27	31.0	North Dakota.			Sheridan.....	2	
Lewiston.....	19	17.0	Bismarck.....	9	25.0	Yellowstone Park.....	5	
Portland.....	4	0.0	Devils Lake.....	5				
			Williston.....	3	21.0			



SNOW AND ICE BULLETIN.



WASHINGTON, D. C., January 22, 1918.

GENERAL REVIEW OF THE WEATHER DURING THE PAST WEEK.

More stable conditions marked the weather of the week just closed as compared with the previous week. No severe storms prevailed and the temperatures were typical of the midwinter season.

The storm over the Middle Atlantic States at the beginning of the week moved within 24 hours to the eastern Canadian Provinces, and general snows accompanied its passage, the falls being heavy over portions of New England.

During the following few days light snow occurred locally in the western mountain and more northern districts, and some rain fell in the Southeastern States and in the far Northwest; elsewhere mostly fair and moderately cold weather continued. On Saturday morning a well-defined storm of the southwestern winter type appeared over northern Texas, which moved to the east Gulf States by Sunday morning, accompanied by moderate rains and snows from the lower Mississippi Valley northeastward to the middle Atlantic coast. At the same time, local snows were reported from the southern Rocky Mountain regions, and severe cold overspread western Texas and portions of New Mexico and Colorado during Sunday and Monday.

At the close of the week a storm of considerable extent was central near the middle Gulf coast, and another was moving eastward into the upper Lakes region. As a result, rain, snow, or sleet was quite general from the East Gulf and South Atlantic States northward.

At the present writing the Gulf storm has moved to the middle Atlantic coast and general snows have prevailed from the Ohio Valley and northern portions of the Gulf States northeastward to New York and southern New England, while to the southward some heavy rains, turning into ice-storms, are reported. Over the central and western districts fair weather prevails, with continued low temperature in western Texas and portions of adjoining States.

DEPTH OF SNOW.

There was a general increase in the snow depth over the amounts reported a week ago, from central Texas northeastward to and including New England, some heavy falls having occurred during the week at points from central Arkansas to western Tennessee and southern Illinois and from the lower Lakes to New England. In the districts to the northward local increases and decreases were small, while in the western mountain districts there is now generally less snow than was reported a week ago, except in the Rocky Mountain sections from Wyoming northward where there were very general but moderate increases. In the mountains of New Mexico and Arizona the snow reported at the close of last week has very generally disappeared, and similar conditions are reported from the mountains of California where the small amounts reported a week ago have practically disappeared, and the outlook for a normal supply of snow before the season ends continues unsatisfactory.

The winter wheat districts to westward of the Mississippi continue snow covered, although the depth is but slight, as a rule. To the eastward of the Mississippi the crop has generally been well protected from the low temperatures.

Cold weather over western Texas and adjacent regions, with more or less snow, is reported to have caused much suffering and considerable loss to stock unprotected on the ranges, and in a weakened condition, due to lack of sufficient food as a result of the long drought.

ICE IN RIVERS AND HARBORS.

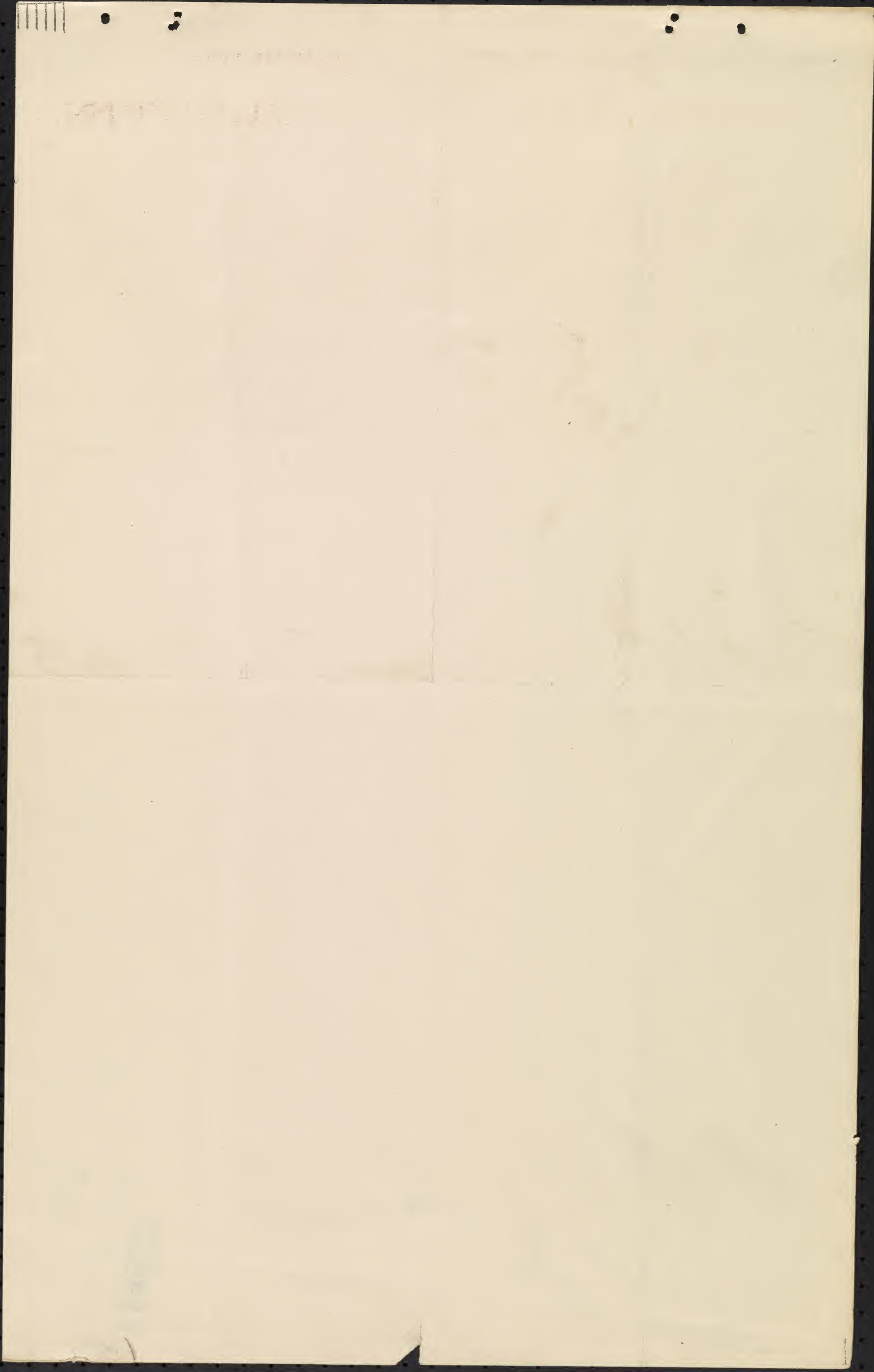
The ice conditions continued about as during the preceding several weeks. Due to continued cold the thickness of ice increased from one to six inches or more over all northern streams and lakes, and there were local increases on some of the streams in the central districts. On the Mississippi River the ice is now 14 inches thick at Cairo, and floating ice is reported as far south as Vicksburg.

P. C. DAY, Climatologist and Chief of Division.

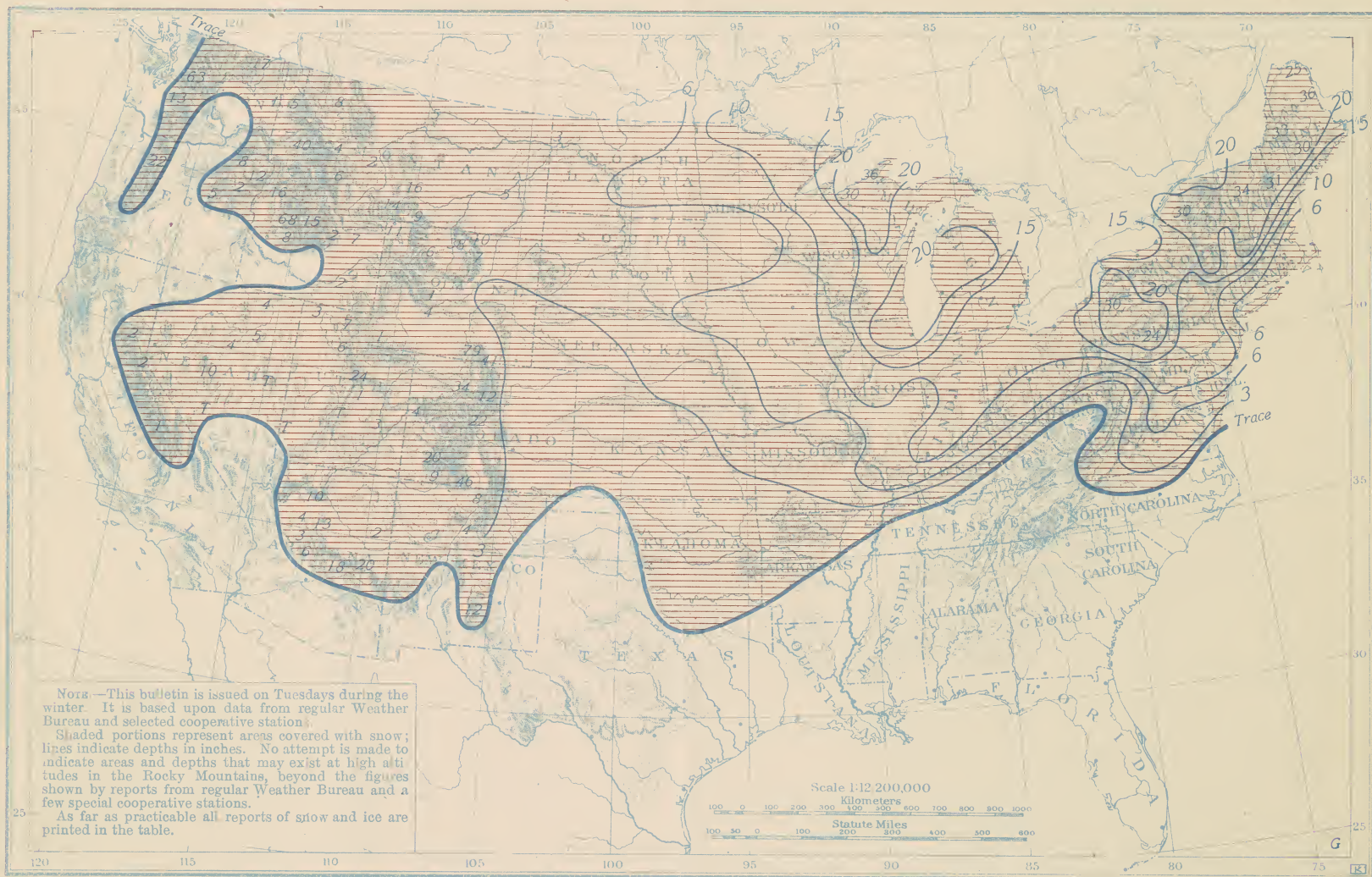
DEPTH OF SNOW AND THICKNESS OF ICE AT 8 P. M., JANUARY 21, 1918.

Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.
Arizona.	Inches	Inches	Michigan—Contd.	Inches	Inches	Oklahoma.	Inches	Inches
Flagstaff.....	T.	.....	Grand Rapids.....	17	.....	Oklahoma.....	5	.....
Pinetop.....	4	.....	Houghton.....	38	13.0	Oregon.....	.....	.....
Arkansas.	.....	.....	Mancelona.....	38	.....	Baker.....	2	.....
Bentonville.....	11	.....	Marquette.....	34	7.0	Gov't Camp.....	18	.....
Fort Smith.....	10	5.0	Saginaw.....	18	16.0	Joseph.....	7	.....
Little Rock.....	15	5.5	Sault Ste. Marie.....	15	18.0	Sparta.....	12	.....
California.	.....	.....	Minnesota.	.....	.....	Pennsylvania.	.....	.....
Huntington Lake.....	2	.....	Duluth.....	10	30.0	Erie.....	5	17.0
Summit.....	7	.....	Leech Lake Dam.....	16	.....	Greenville.....	8	.....
Colorado.	.....	.....	Minneapolis.....	3	.....	Harrisburg.....	12	16.0
Denver.....	2	.....	Moorhead.....	7	25.0	Indiana.....	12	.....
Grand Junction.....	3	.....	St. Paul.....	3	17.5	Philadelphia.....	3	.....
Leadville.....	22	.....	Winton.....	15	.....	Pittsburgh.....	6	3.0
Pueblo.....	2	.....	Mississippi.	.....	.....	Reading.....	2	*
Steamboat Springs.....	29	.....	Corinth.....	7	.....	Seranton.....	2	.....
Connecticut.	.....	.....	Vicksburg.....	0	.....	Rhode Island.	.....	.....
Hartford.....	8	21.0	Missouri.	.....	.....	Block Island.....	0	*
New Haven.....	1	0.0	Columbia.....	6	.....	Narragansett Pier.....	T.	.....
Dist. of Columbia.	.....	.....	Kansas City.....	3	*	Providence.....	1	4.0
Washington.....	T.	14.0	Rolla.....	5	.....	South Carolina.	.....	.....
Idaho.	.....	.....	St. Joseph.....	1	.....	Greenville.....	T.	.....
Boise.....	T.	.....	St. Louis.....	6	.....	South Dakota.	.....	.....
McCall.....	16	.....	Springfield.....	9	.....	Huron.....	2	22.0
Pocatello.....	4	.....	Montana.	.....	.....	Pierre.....	2	23.0
Oxford Ranger Sta.....	33	.....	Bozeman.....	10	.....	Rapid City.....	1	.....
Vienna Mine.....	67	.....	Findon.....	3	.....	Yankton.....	2	20.0
Illinois.	.....	.....	Havre.....	6	.....	Tennessee.	.....	.....
Antioch.....	18	.....	Helena.....	T.	.....	Chattanooga.....	4	.....
Cairo.....	18	14.0	Kalispell.....	11	.....	Memphis.....	10	.....
Chicago.....	17	.....	Miles City.....	2	.....	Nashville.....	10	0.0
Springfield.....	15	.....	Missoula.....	6	.....	Texas.	.....	.....
Indiana.	.....	.....	Red Lodge.....	6	.....	Abilene.....	6	.....
Evansville.....	22	.....	Nebraska.	.....	.....	Amarillo.....	T.	.....
Fort Wayne.....	13	.....	Alliance.....	3	.....	El Paso.....	2	.....
Indianapolis.....	12	.....	Lincoln.....	2	.....	Fort Worth.....	2	0.0
Marion.....	12	.....	North Platte.....	T.	.....	Palestine.....	T.	.....
Terre Haute.....	12	6.5	Omaha.....	1	20.5	Utah.	.....	.....
Iowa.	.....	.....	Valentine.....	2	.....	Kelton.....	7	.....
Charles City.....	2	.....	Nevada.	.....	.....	Salt Lake City.....	10	.....
Davenport.....	9	21.0	Austin.....	7	.....	Vermont.	.....	.....
Des Moines.....	T.	16.0	Hylton.....	5	.....	Brattleboro.....	29	21.0
Dubuque.....	7	22.0	North Fork.....	3	.....	Burlington.....	15	*
Keokuk.....	5	16.0	New Hampshire.	.....	.....	Danville.....	2	.....
Sioux City.....	2	25.0	Concord.....	21	22.0	Lynchburg.....	1	10.5
Kansas.	.....	.....	New Mexico.	.....	.....	Norfolk.....	3	0.0
Concordia.....	3	.....	Cloudcroft.....	10	.....	Richmond.....	3	0.0
Dodge City.....	T.	.....	Roswell.....	4	.....	Staunton.....	2	.....
Topeka.....	2	.....	Santa Fe.....	1	.....	Woodstock.....	3	.....
Wakeeney.....	4	.....	Tres Piedras.....	4	.....	Wytheville.....	6	.....
Wichita.....	3	.....	New York.	.....	.....	Washington.	.....	.....
Kentucky.	.....	.....	Albany.....	9	15.0	Cascade Tunnel.....	59	.....
Bowling Green.....	10	.....	Beaver River.....	23	.....	Laurier.....	14	.....
Eubank.....	10	.....	Binghamton.....	9	.....	North Yakima.....	1	.....
Lexington.....	7	.....	Buffalo.....	20	15.0	Spokane.....	2	.....
Louisville.....	12	0.0	Canton.....	12	.....	West Virginia.	.....	.....
Louisiana.	.....	.....	Ithaca.....	8	.....	Elkins.....	2	.....
Shreveport.....	1	0.0	New York.....	1	.....	Parkersburg.....	3	.....
Maine.	.....	.....	Rochester.....	9	13.0	Rowlesburg.....	4	.....
Bangor.....	30	21.0	Rome.....	20	.....	Wisconsin.	.....	.....
Eastport.....	14	0.0	Syracuse.....	10	.....	Barron.....	9	.....
Gardiner.....	16	20.0	North Carolina.	.....	.....	Green Bay.....	14	15.0
Greenville.....	34	35.5	Asheville.....	4	*	La Crosse.....	5	22.0
Lewiston.....	23	18.0	Charlotte.....	T.	.....	Madison.....	13	.....
Portland.....	13	0.0	Raleigh.....	3	.....	Medford.....	12	.....
Maryland.	.....	.....	North Dakota.	.....	.....	Milwaukee.....	14	0.0
Baltimore.....	0	12.0	Bismarck.....	9	27.0	Wausau.....	6	24.0
Massachusetts.	.....	.....	Devils Lake.....	5	.....	Wyoming.	.....	.....
Boston.....	3	0.0	Williston.....	3	22.5	Alta.....	24	.....
Holyoke.....	13	20.0	Ohio.	.....	.....	Cheyenne.....	2	.....
Nantucket.....	T.	8.0	Cincinnati.....	10	.....	Dome Lake.....	31	.....
Michigan.	.....	.....	Cleveland.....	11	26.0	Fox Park.....	36	.....
Alpena.....	13	16.0	Columbus.....	11	.....	Lander.....	5	.....
Cadillac.....	29	.....	Dayton.....	14	5.0	Sand Lake.....	76	.....
Detroit.....	6	17.0	Sandusky.....	7	21.0	Sheridan.....	12	.....
Escanaba.....	9	28.5	Toledo.....	7	14.0	Yellowstone Park.....	7	.....
Grand Haven.....	24	.....	Waverly.....	10	.....		

*Shore ice. †Floating ice. ‡Ice gorged. T. indicates trace.



SNOW AND ICE BULLETIN.



WASHINGTON, D. C., January 29, 1918.

GENERAL REVIEW OF THE WEATHER DURING THE PAST WEEK.

With the exception of light snows over the more northern districts, the weather during the first half of the week just closed was fair and only moderately cold, save in the southeastern districts where freezing temperature extended into northern Florida.

By Friday morning much colder weather set in over the Northwest, the temperature fall in 24 hours ranging from 20° to 50° at points in the Dakotas, Montana, and the British Northwest Provinces. At the same time low pressure areas were central over the Great Lakes and in Wyoming, and light snow was general from the upper Ohio Valley and Lakes region eastward, and in the northern Rocky Mountains.

Within the following 24 hours there was a general and further fall in temperature over the Northwest, the cold wave extending into the upper Lakes with temperatures 40° or more below zero near the northern shore of Lake Superior, and 30° or more below in portions of North Dakota and Minnesota. In the meantime the low pressure central in Wyoming had moved to southern Missouri, but without material precipitation, and warm southerly winds prevailed over the Gulf States.

During Saturday the cold wave over the northern districts moved rapidly eastward, the low pressure area advanced into the lower Ohio Valley, and rain or snow, mostly light, prevailed over nearly all central districts from the Rocky Mountains eastward. At 8 a. m. Sunday, the low area had moved to the Atlantic coast and rain or snow continued over nearly all central districts, while over the more northern portions of the country more moderate temperatures prevailed.

A storm that apparently originated in northeastern Mexico moved during Sunday into the lower Mississippi Valley, and by 8 a. m. Monday it had extended into the Ohio Valley, with heavy rains at points in Mississippi, Tennessee, and portions of adjacent States, and moderately heavy snows from the upper Ohio Valley eastward to the middle Atlantic coast, and lighter snows or rains continued in most other portions of the country from the Mississippi Valley eastward, except in parts of the Southeastern and Northeastern States.

At the present writing the storm over the Ohio Valley Monday morning has moved to the northward of the Great Lakes, and snow has ceased over most eastern districts. In the middle West and Southwest clear and cold weather prevails, while light snow is falling at points in the northern Rocky Mountains.

DEPTH OF SNOW.

The area now snow-covered is somewhat less than a week ago, due to the disappearance of a considerable amount over the southern drainage basin of the Ohio and thence southwesterly through Arkansas, Oklahoma, and northern Texas. Over all northern districts from the Missouri Valley eastward there was a greater or less increase over the depths reported last week, the additional amounts from eastern Nebraska through Iowa, southern Wisconsin, and northern Illinois and thence to the Middle Atlantic States ranging from 5 to 12 inches, and at points in western Pennsylvania the snow is now 12 to 18 inches deeper than reported last week.

In the principal coal fields of West Virginia, Kentucky, Arkansas, Oklahoma, and to the southward the ground is generally bare of snow. Those of Missouri, Iowa, Illinois, Indiana, Ohio, western Maryland, and Pennsylvania are generally heavily covered, especially in Pennsylvania where the snow ranges from 2 to 3 feet in depth.

Small amounts of snow now appear in the mountains of Arizona, but the far western mountains continue largely bare, and portions of the small amounts reported last week have disappeared.

The greater part of the winter wheat region to eastward of the Mississippi still has a good covering of snow, but the important districts in the Southwest are generally bare or have only slight covering.

ICE IN RIVERS AND HARBORS.

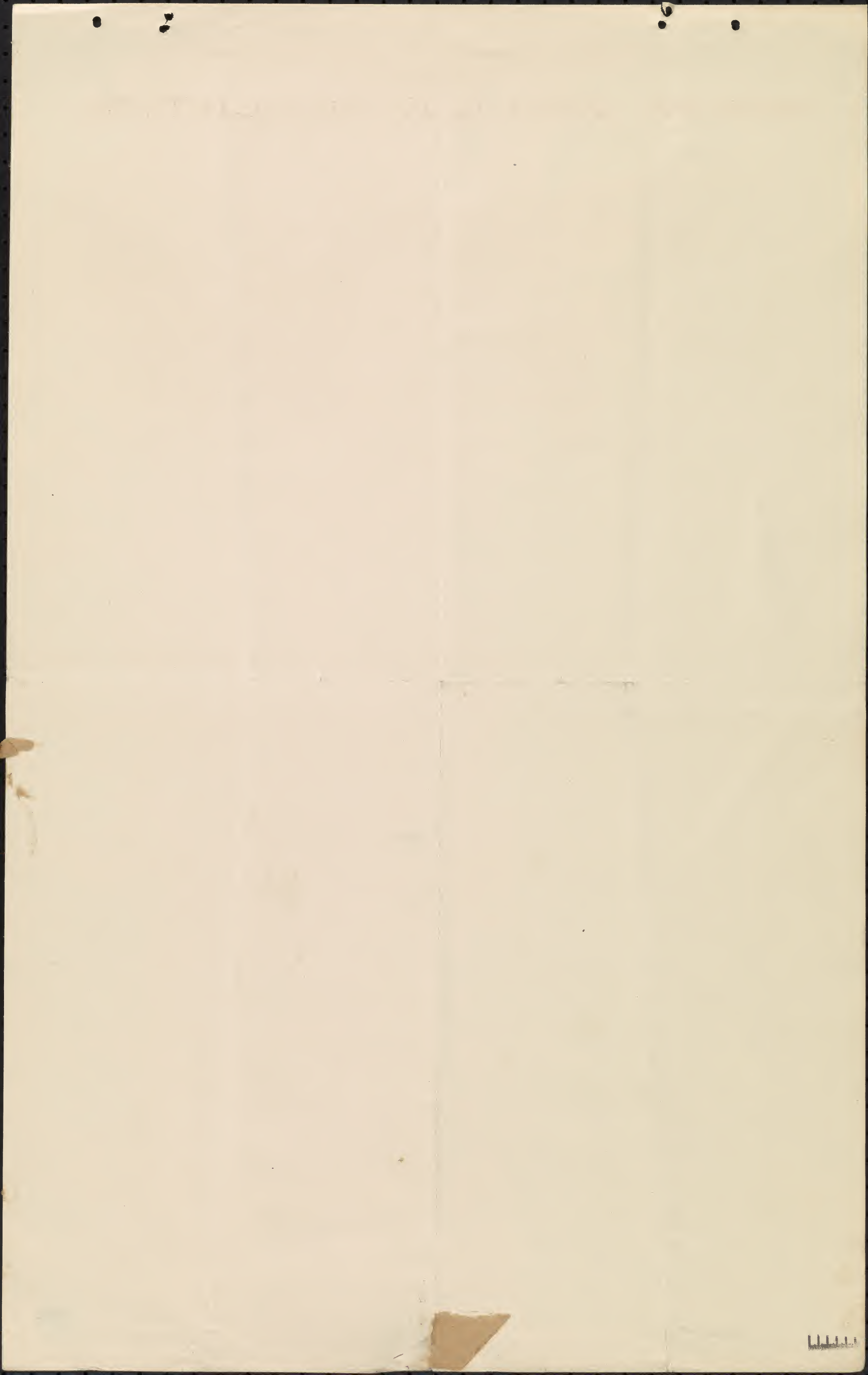
Due to heavy rains within the last two or three days, the ice in some of the southern tributaries of the Ohio has broken up and is passing into the main stream, and gorges are forming at several points. However, colder weather will probably prevent any general break-up at the present time.

P. C. DAY, Climatologist and Chief of Division.

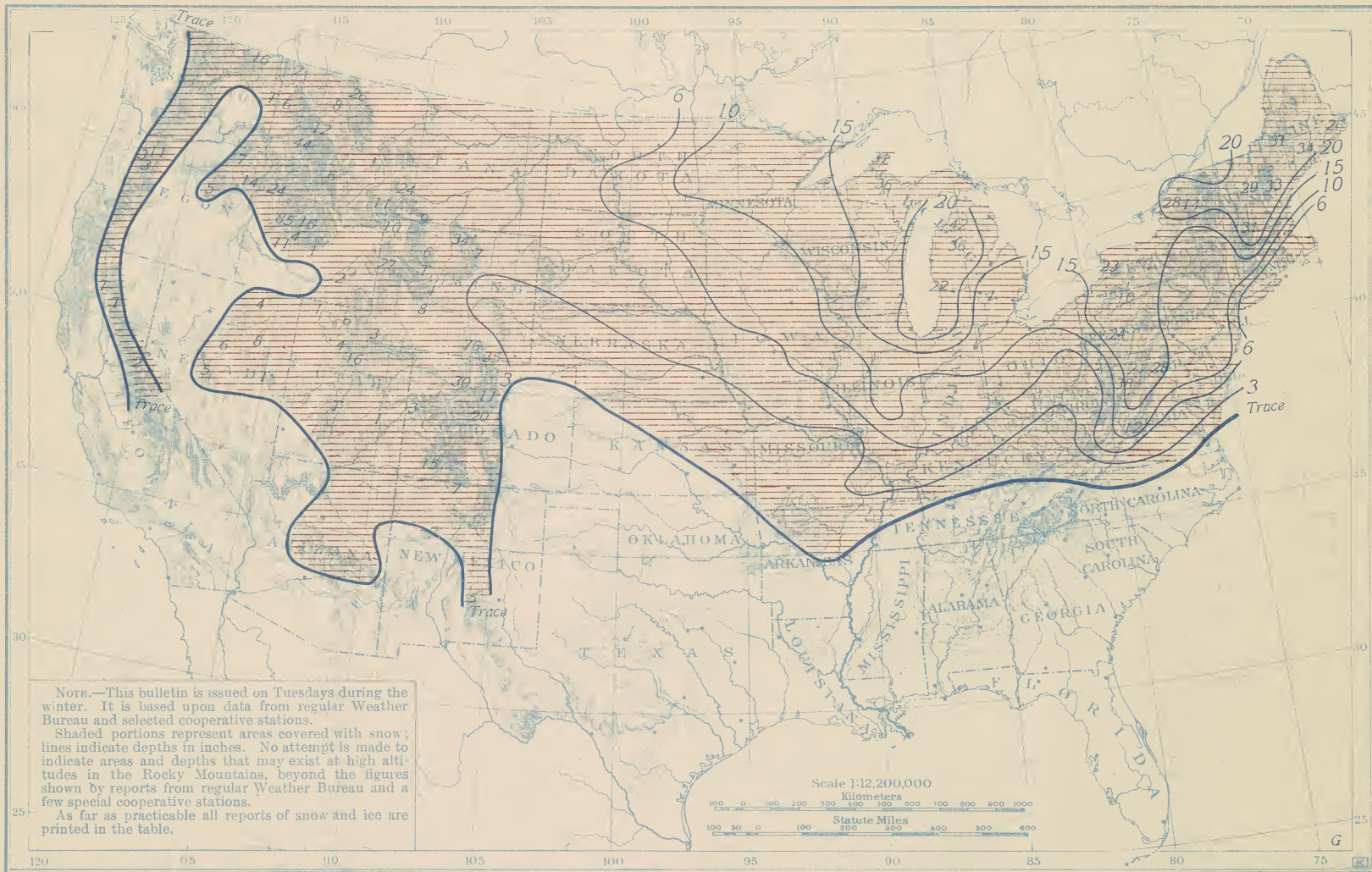
DEPTH OF SNOW AND THICKNESS OF ICE AT 8 P. M., JANUARY 28, 1918.

Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.
Arizona.	Inches	Inches	Massachusetts.	Inches	Inches	Ohio—Contd.	Inches	Inches
Flagstaff.....	13	.....	Boston.....	3	0.0	Columbus.....	8	.....
Grand Canyon.....	10	.....	Fitchburg.....	23	.....	Dayton.....	13	6.0
Pinetop.....	20	.....	Holyoke.....	15	24.0	Sandusky.....	12	24.0
Arkansas.			Nantucket.....	4	8.0	Toledo.....	13	18.0
Bentonville.....	2	.....	Turners Falls.....	32	24.0	Waverly.....	7	.....
Fort Smith.....	T.	5.0	Michigan.			Oregon.		
Little Rock.....	2	4.0	Alpena.....	16	18.5	Baker.....	2	.....
California.			Calumet.....	31	.....	Gov't Camp.....	22	.....
Huntington Lake.....	1	.....	Detroit.....	10	18.0	Hilgard.....	8	.....
Summit.....	2	.....	Escanaba.....	10	26.0	Prairie City.....	5	.....
Table Rock.....	2	.....	Grand Haven.....	25	.....	Sparta.....	12	.....
Colorado.			Grand Rapids.....	18	.....	Pennsylvania.		
Denver.....	2	.....	Houghton.....	36	17.5	Emporium.....	20	.....
Durango.....	9	.....	Ironwood.....	30	.....	Erie.....	7	20.0
Grand Junction.....	4	.....	Lansing.....	14	.....	Harrisburg.....	24	17.0
Leadville.....	22	.....	Ludington.....	24	.....	Indiana.....	30	.....
Pueblo.....	T.	.....	Sault Ste. Marie.....	17	20.0	Mifflintown.....	24	.....
Steamboat Springs.....	34	.....	Minnesota.			Philadelphia.....	14	.....
Connecticut.			Duluth.....	10	32.0	Pittsburgh.....	12	0.0
Hartford.....	10	25.0	Moorhead.....	9	25.0	Reading.....	10	.....
New Haven.....	5	0.0	St. Paul.....	4	18.5	Seranton.....	6	.....
Dist. of Columbia.			Missouri.			Somerset.....	30	.....
Washington.....	6	18.0	Brunswick.....	8	.....	Warren.....	10	.....
Idaho.			Columbia.....	2	.....	Rhode Island.		
Boise.....	T.	.....	Hannibal.....	5	17.0	Block Island.....	3	.....
Mackay.....	2	.....	Kansas City.....	3	.....	Narragansett Pier.....	4	.....
McCall.....	16	.....	St. Joseph.....	4	.....	Providence.....	2	4.0
Oxford Ranger Sta.....	40	.....	St. Louis.....	1	.....	South Dakota.		
Pocatello.....	2	.....	Springfield.....	1	.....	Huron.....	2	24.0
Soldier Creek.....	8	.....	Trenton.....	6	.....	Pierre.....	5	24.0
Vienna Mine.....	68	.....	Unionville.....	12	.....	Rapid City.....	7	.....
Wallace.....	5	.....	Montana.			Yankton.....	8	22.0
Illinois.			Bozeman.....	14	.....	Utah.		
Cairo.....	6	.....	Findon.....	16	.....	East Portal.....	24	.....
Chicago.....	24	.....	Havre.....	5	.....	Kelton.....	3	.....
Oregon.....	30	.....	Helena.....	2	.....	Logan.....	7	.....
Peoria.....	10	14.0	Kalispell.....	8	.....	Modena.....	T.	.....
Springfield.....	12	.....	Miles City.....	5	.....	Salt Lake City.....	6	.....
Indiana.			Red Lodge.....	9	.....	Vermont.		
Evansville.....	11	.....	Nebraska.			Brattleboro.....	29	23.0
Fort Wayne.....	14	.....	North Platte.....	2	.....	Burlington.....	16	15.5
Indianapolis.....	5	.....	Omaha.....	4	21.0	Northfield.....	27	.....
Marion.....	14	.....	Valentine.....	5	.....	Virginia.		
Paoli.....	15	.....	Nevada.			Fredericksburg.....	2	.....
Terre Haute.....	8	8.0	Austin.....	10	.....	Lynchburg.....	3	11.0
Valparaiso.....	17	.....	North Fork.....	4	.....	Richmond.....	2	0.0
Iowa.			Tonopah.....	T.	.....	Staunton.....	4	.....
Albia.....	9	.....	New Hampshire.			Wytheville.....	2	.....
Charles City.....	7	.....	Concord.....	19	20.0	Washington.		
Davenport.....	10	22.0	Hanover.....	24	.....	Cascade Tunnel.....	63	.....
Des Moines.....	4	15.5	New Jersey.			Laurier.....	17	.....
Dubuque.....	12	22.0	Atlantic City.....	10	.....	Spokane.....	1	.....
Keokuk.....	5	17.0	Cape May.....	9	8.5	Stampede.....	13	.....
Sioux City.....	6	27.5	New Mexico.			West Virginia.		
Kansas.			Cloudcroft.....	12	.....	Elkins.....	T.	0.0
Concordia.....	2	.....	Santa Fe.....	4	.....	Parkersburg.....	2	12.0
Iola.....	3	12.5	Taos.....	8	.....	Rowlesburg.....	3	.....
Pittsburg.....	2	.....	New York.			Wisconsin.		
Topeka.....	3	.....	Albany.....	11	15.0	Barron.....	9	.....
Wakeeney.....	4	.....	Beaver River.....	30	.....	Delavan.....	17	.....
Wichita.....	1	.....	Binghamton.....	12	.....	Grand Rapids.....	10	.....
Kentucky.			Buffalo.....	26	20.0	Green Bay.....	16	15.5
Earlington.....	7	.....	Canton.....	16	.....	La Crosse.....	10	26.0
Lexington.....	3	.....	Ithaca.....	8	.....	Madison.....	18	.....
Louisville.....	8	0.0	New York.....	5	.....	Milwaukee.....	22	0.0
Maine.			Rochester.....	11	15.0	Wausau.....	7	26.0
Bangor.....	30	21.0	Roxbury.....	22	.....	Wyoming.		
Eastport.....	16	0.0	Syracuse.....	12	.....	Buffalo.....	7	.....
Gardiner.....	20	24.0	Watertown.....	24	.....	Cheyenne.....	T.	.....
Greenville.....	33	35.5	North Dakota.			Dome Lake.....	38	.....
Houlton.....	36	.....	Bismarek.....	9	28.0	Fox Park.....	41	.....
Lewiston.....	31	20.0	Devils Lake.....	4	.....	Lander.....	1	.....
Portland.....	15	0.0	Williston.....	3	24.0	Sand Lake.....	79	.....
Maryland.			Ohio.			Sheridan.....	10	.....
Baltimore.....	12	9.0	Cincinnati.....	8	.....	Yellowstone Park.....	11	.....
Frederick.....	14	.....	Cleveland.....	10	26.0			

* Shore ice. † Floating ice. ‡ Ice gorged. T. indicates trace.



SNOW AND ICE BULLETIN.



WASHINGTON, D. C., February 5, 1918.

GENERAL REVIEW OF THE WEATHER DURING THE PAST WEEK.

No material change over the conditions that have prevailed for the past two months occurred during the week just closed. At the beginning, light snow was falling in the Lakes region and Northeastern States, and in portions of the northern Rocky Mountains. Over the remaining districts, the weather was fair and cold. During Wednesday, considerable snow or rain fell over the Southeastern States, and light snows overspread most northern districts from the upper Lakes westward, while colder weather advanced into the central and southern Rocky Mountain and Plains regions, the line of zero temperature reaching the southern border of Kansas. During the following day pressure rose over most districts of the United States and it continued cold over all interior portions. In the British Northwest, however, the pressure was falling, and by Friday morning marked rises in temperature were observed over the upper Missouri Valley and northern Rocky Mountain districts, with indications of a further extension to the eastward and southward. At the morning observation of Saturday the temperatures were very generally higher in all except the Atlantic Coast States, but colder weather had again overspread the Northwest, and during Sunday and Monday advanced rapidly into the eastern districts.

At the present writing severe cold persists in the Eastern States, particularly in New England where minimum temperatures range from 10° to nearly 30° below zero. In the Missouri Valley and adjacent portions of the Northwest there has been a decided break in the cold, and more moderate weather is indicated for all central and eastern districts within the next few days.

DEPTH OF SNOW.

Slight increases in the snow depths over those reported a week ago are noted along the north Atlantic coast and locally in the northern mountain districts of the West. Elsewhere there was a very general but slight decrease, due probably to settling rather than melting. There is now a considerable body of well-packed snow from the middle and upper Mississippi Valley eastward, that probably contains a large percentage of water. With the ground frozen to an unusual depth, any rapid thawing of the snow-layer accompanied by heavy rains would doubtless result in excessive run-off.

In the mountain districts of the West, the accumulated snow is very generally less than normal, and in the far West and Southwest the snow now on the ground is in many places less than ever before observed at this season. This is particularly true in portions of California and Nevada, where deficient snow in the mountains indicates an inevitable scarcity of water for late irrigation purposes during the coming growing season.

In the eastern winter grain region snow covers the ground sufficiently to protect the crop from the severe cold, but on account of the long period the snow has remained on the ground it is probable the lower layers have now mostly changed to ice. Some danger exists, therefore, to the crop from this source.

In the mining regions from southern West Virginia southwestward to Arkansas and Oklahoma the ground is mostly bare of snow, but over northern West Virginia, western Maryland, Pennsylvania, and thence westward, the ground is in some places deeply snow covered, and mining operations are hampered accordingly.

ICE IN RIVERS AND HARBORS.

No marked changes occurred in the ice situation as compared with conditions existing during the past month or more. Due to heavy rains near the latter part of the preceding week over the southern tributaries of the Ohio, the ice was partly broken up and extensive gorges formed at points in the main stream, causing disastrous floods, particularly in the vicinity of Cincinnati. From the Great Lakes eastward there is much more ice than usual over all streams and lakes, but to the westward the conditions are not materially different from those existing at the same time last year.

P. C. DAY, Climatologist and Chief of Division.

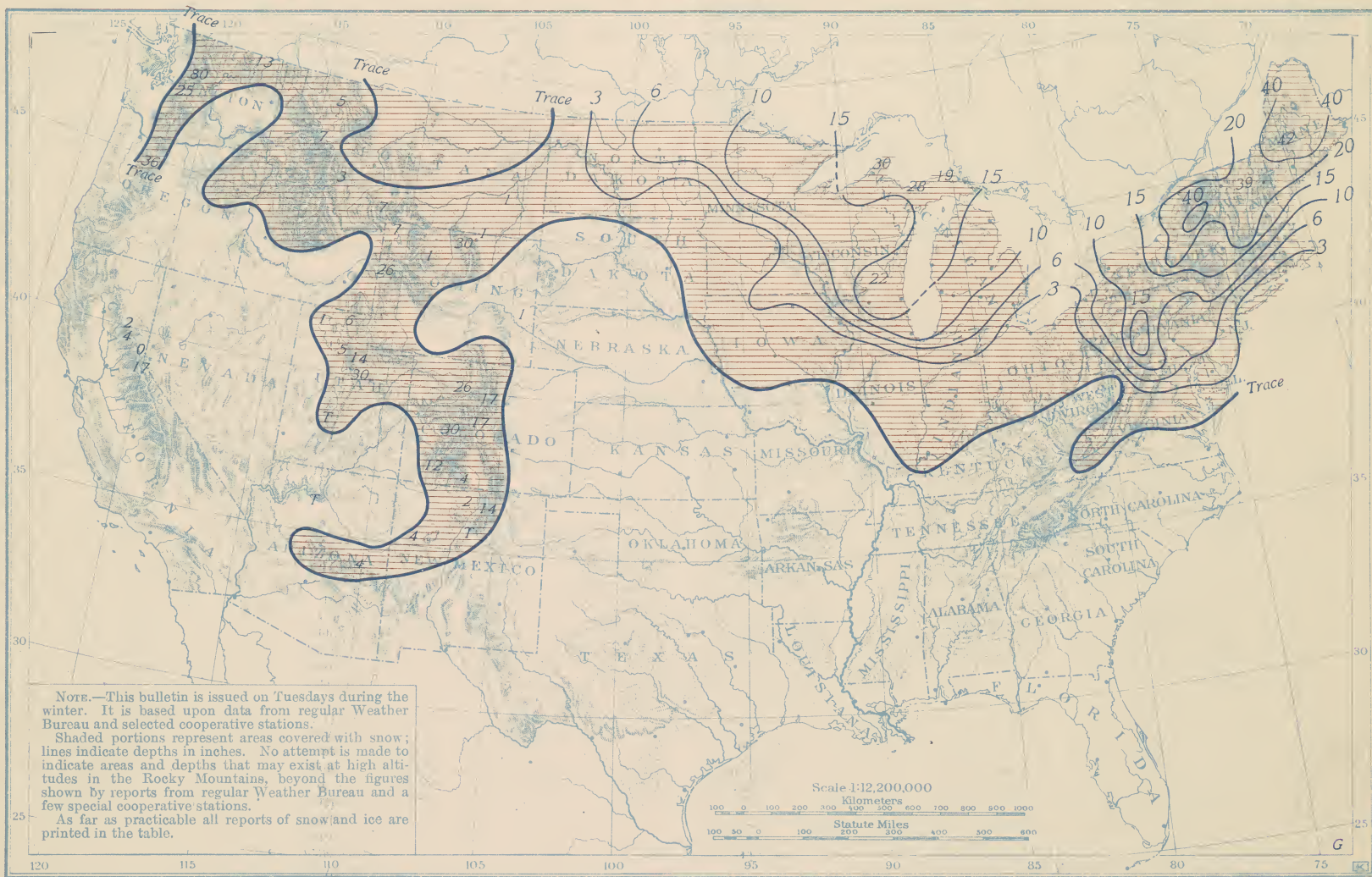
DEPTH OF SNOW AND THICKNESS OF ICE AT 8 P. M., FEBRUARY 4, 1918.

Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.
Arizona.	Inches	Inches	Michigan—Contd.	Inches	Inches	Ohio—Contd.	Inches	Inches
Carrs Ranch.....	4		Grand Haven.....	22		Columbus.....	6	
Flagstaff.....	3		Grand Rapids.....	17		Dayton.....	10	8.0
Pinetop.....	12		Houghton.....	26	18.5	Sandusky.....	10	24.0
Arkansas.			Humboldt.....	36		Tiffin.....	7	
Bentonville.....	T.	0.0	Lansing.....	10		Toledo.....	10	20.0
Fort Smith.....	0	5.0	Mancelona.....	42		Waverly.....	6	
Little Rock.....	T.	0.0	Port Huron.....	11	20.0	Oklahoma.		
California.			Saginaw.....	22	17.0	Oklahoma.....	T.	
Summit.....	2		Sault Ste. Marie..	17	23.0	Oregon.		
Colorado.			Minnesota.			Detroit.....	3	
Grand Junction...	3		Duluth.....	10	35.5	Gov't Camp.....	11	
Leadville.....	20		Fort Ripley.....	10		Hilgard.....	7	
Steamboat Springs	30		Leech Lake Dam..	17		Sparta.....	14	
Connecticut.			Minneapolis.....	4		Pennsylvania.		
Hartford.....	10	30.0	Moorhead.....	9	28.0	Erie.....	6	24.0
New Haven.....	4	0.0	St. Paul.....	4	19.5	Greenville.....	16	
Dist. of Columbia.			Winton.....	14		Harrisburg.....	18	18.5
Washington.....	8	19.0	Wisconsin.			Indiana.....	24	
Idaho.			Brunswick.....	8		Parkers Landing..	13	
Ketchum.....	4		Columbia.....	T.		Pittsburgh.....	5	†
McCall.....	24		Hannibal.....	3	16.5	Reading.....	11	
Oxford Ranger Sta.	4		Ironton.....	4		Scranton.....	4	
Pocatello.....	2		Kansas City.....	2		Warren.....	10	
Soldier Creek.....	11		St. Louis.....	T.	†	Rhode Island.		
Vienna Mine.....	85		Springfield.....	T.		Block Island.....	2	*
Illinois.			Montana.			Narragansett Pier.	2	
Cairo.....	3	*	Bozeman.....	11		Providence.....	6	4.0
Camp Point.....	6		Butte.....	6		South Dakota.		
Chicago.....	21		Findon.....	24		Huron.....	3	26.0
Peoria.....	8	17.0	Glacier Park.....	26		Rapid City.....	4	
Springfield.....	11		Havre.....	5		Yankton.....	5	24.0
Indiana.			Helena.....	1		Utah.		
Evansville.....	7	†	Kalispell.....	1		Heber.....	16	
Fort Wayne.....	13		Missoula.....	4		Logan.....	6	
Indianapolis.....	4		Nebraska.			Salt Lake City....	4	
Marion.....	12		Alliance.....	1		Vermont.		
Richmond.....	8		Lincoln.....	1		Brattleboro.....	31	24.0
Terre Haute.....	6	9.5	North Platte.....	T.		Burlington.....	15	18.5
Iowa.			Omaha.....	3	22.5	Northfield.....	28	
Albia.....	7		Ravenna.....	3		St. Johnsbury.....	24	
Charles City.....	5		Valentine.....	4		Virginia.		
Davenport.....	9	21.5	Nevada.			Richmond.....	2	0.0
Des Moines.....	4	16.5	Arthur.....	8		Wytheville.....	2	
Dubuque.....	11	23.0	Hylton.....	6		Washington.		
Keokuk.....	4	20.0	North Fork.....	4		Laurier.....	16	
Mason City.....	6		New Hampshire.			Spokane.....	T.	
Sioux City.....	5	26.0	Bethlehem.....	29		West Virginia.		
Kansas.			Concord.....	19	19.0	Bayard.....	38	
Concordia.....	1		New Jersey.			Burlington.....	21	
Iola.....	1	14.0	Atlantic City.....	12		Elkins.....	1	
Topeka.....	1		Cape May.....	11	12.0	Fairmont.....	4	
Kentucky.			New Mexico.			Hinton.....	4	
Hopkinsville.....	2		Cloudcroft.....	5		Parkersburg.....	2	12.0
Lexington.....	3		Santa Fe.....	T.		Rowlesburg.....	5	
Louisville.....	5	0.0	Tres Piedras.....	7		Williamson.....	T.	
Mount Sterling...	3		New York.			Wisconsin.		
Maine.			Albany.....	11	15.5	Ashland.....	10	
Bangor.....	34	22.0	Binghamton.....	8		Brodhead.....	23	
Eastport.....	26	0.0	Buffalo.....	23	22.0	Eau Claire.....	18	
Gardiner.....	24	26.0	Canton.....	17		Fond du Lac.....	18	
Greenville.....	37	35.5	Herkimer.....	14		Green Bay.....	15	16.5
Lewiston.....	33	21.0	Ithaca.....	19		La Crosse.....	9	30.0
Portland.....	19	7.5	Lowville.....	24		Madison.....	16	
Maryland.			New York.....	4	0.0	Milwaukee.....	19	0.0
Baltimore.....	11	12.0	Ogdensburg.....	23		Park Falls.....	13	
Easton.....	7		Oswego.....	19	23.0	Wausau.....	8	28.0
Frederick.....	28		Rochester.....	12	17.0	Wyoming.		
Massachusetts.			Rome.....	6		Alta.....	27	
Boston.....	4	0.0	Syracuse.....	11		Cheyenne.....	T.	
Holyoke.....	16	26.0	North Dakota.			Dome Lake.....	34	
Nantucket.....	4	10.0	Bismarck.....	10	31.0	Fox Park.....	35	
Turners Falls.....	36	28.0	Devils Lake.....	4		Lander.....	1	
Michigan.			Williston.....	2	25.0	Sand Lake.....	76	
Alpena.....	13	22.0	Ohio.			Sheridan.....	8	
Cadillac.....	36		Beverly.....	5		Valley.....	6	
Detroit.....	9	20.0	Cincinnati.....	†		Yellowstone Park.	10	
Escanaba.....	10	80.0	Cleveland.....	8	26.0			

*Shore ice. †Floating ice. ‡Ice gorged. T. indicates traces.



SNOW AND ICE BULLETIN.



WASHINGTON, D. C., February 12, 1918.

GENERAL REVIEW OF THE WEATHER DURING THE PAST WEEK.

The moderation in temperature referred to in the last issue rapidly overspread the central and eastern districts, and by Wednesday morning freezing weather was confined largely to the Atlantic coast districts, the mountain regions of the West, and the northern tier of States from Montana and Wyoming eastward.

With the advent of more moderate temperatures, cyclonic and anticyclonic activities slackened somewhat, and during the remainder of the week no violent changes in weather conditions were observed. No widespread precipitation occurred during the week, except on Saturday and Sunday when rain or snow, mostly light, prevailed from the middle Mississippi Valley northeastward to New England, and earlier in the week quite general rains were reported over the Pacific Coast States, relieving to some extent the severe drought in portions of California.

At the close of the week pressure was high over the South Atlantic and East Gulf States and warm southerly winds prevailed very generally from the Plains region eastward, and fair weather was general.

At the present writing a storm of moderate intensity has moved to central Illinois, and rain, heavy at a few points, is now falling in the lower Ohio Valley and adjacent districts. Should moderate or heavy rains extend into the northern headwaters of the upper Ohio, where a considerable body of dense snow still covers the ground, but melting rapidly under the influence of warmer weather, serious floods may be expected in that river, as well as in those draining to the eastward.

DEPTH OF SNOW.

No increases in the snow depth over the amounts reported last week appear, save in northern New England, and at a few points only in northern New York, the upper Lakes region, and locally in the far western mountains. Over all the remaining districts, snow-covered a week ago, there was a very general reduction in the depth of the cover, the decreases ranging from 5 to 10 inches from the lower Missouri Valley eastward to the interior portions of Maryland and Pennsylvania. In the western mountain districts there were very general decreases in the snow depths at nearly all lower elevations, and the open country is now generally bare at the lower levels. At a few points in the far western mountains, notably in California, some increases are reported, but, as a rule, there is still but little snow in these mountains.

In the winter wheat growing districts to eastward of the Mississippi the snow cover has largely disappeared, and as the melting appears to have proceeded slowly it is probable much of the water has passed into the upper layers of the soil.

Over the districts to westward of the Mississippi the slight covering reported last week has likewise disappeared slowly, and the resulting moisture has doubtless been fully absorbed by the soil.

In the coal mining regions from northern West Virginia westward and southward the ground is now mostly bare, or with only a slight snow cover, and the weather of the past week has been favorable for mining operations, and for transportation, except where high water prevailed. In the coal regions of western Maryland and generally over Pennsylvania, deep snow still covers the ground, but the more moderate weather has afforded much relief to the transportation interests.

ICE IN RIVERS AND HARBORS.

Warmer weather during the week just closed caused some breaking up of the ice over the more southern districts where ice had previously formed, and it is now passing out of the smaller streams. With the moderate melting of the snow cover, the streams have not so far risen to high stages, although gorging of the ice in the Ohio at several points has caused considerable damage by local flooding.

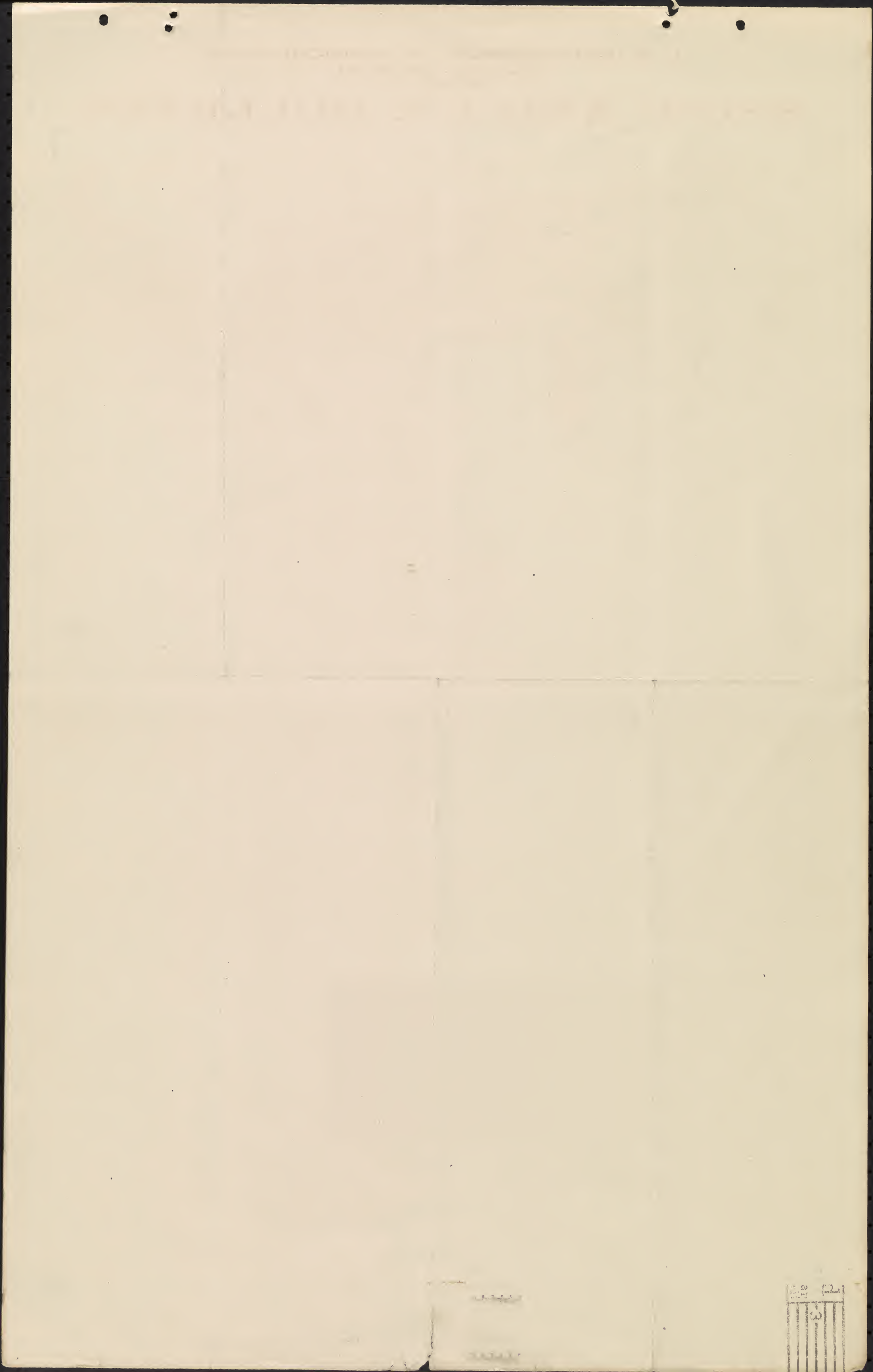
Over the northern districts the rivers and lakes continue heavily ice-bound, and local increases in thickness were reported.

P. C. DAY, Climatologist and Chief of Division.

DEPTH OF SNOW AND THICKNESS OF ICE AT 8 P. M., FEBRUARY 11, 1918.

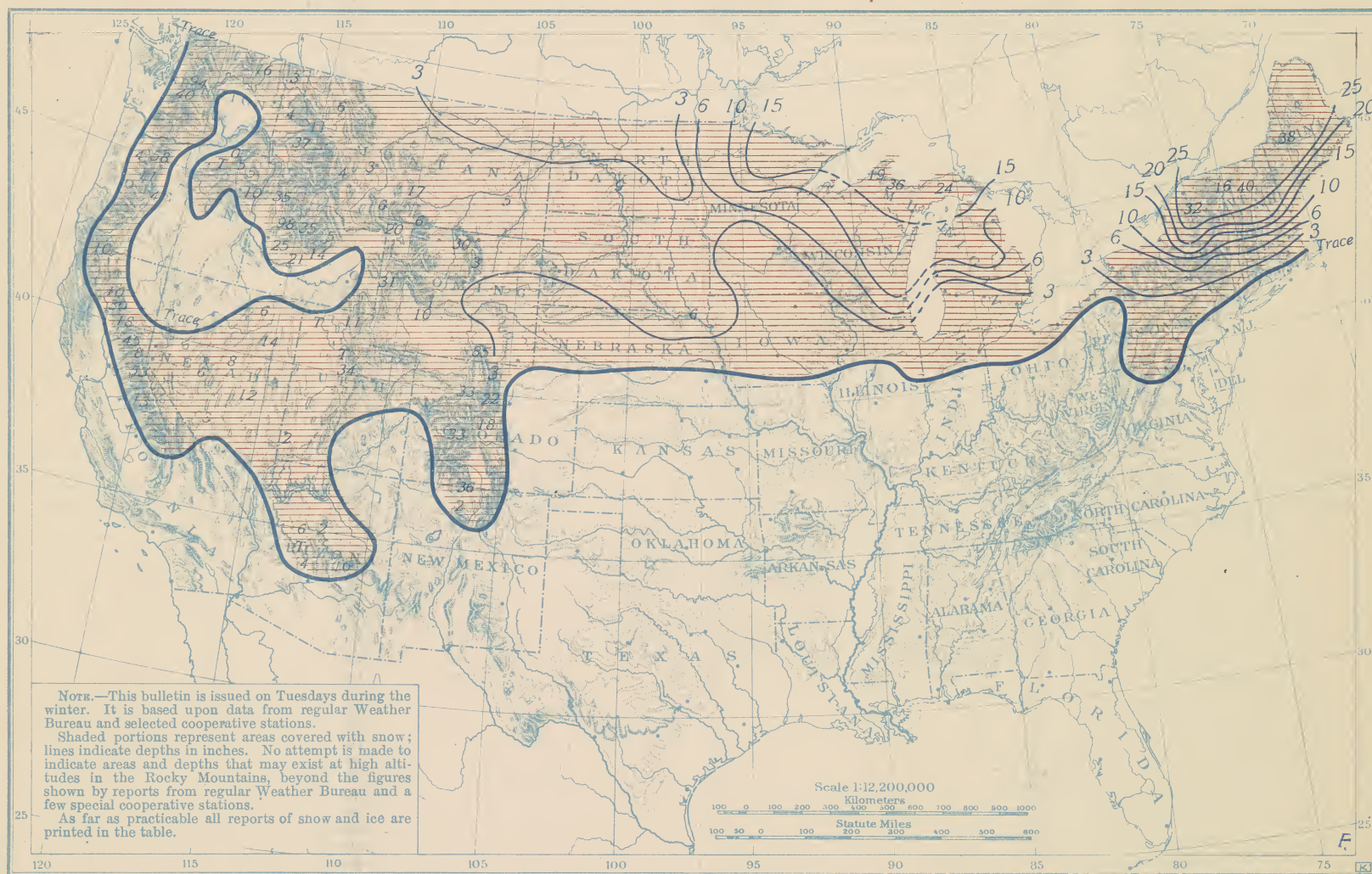
Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.
Arizona.	Inches	Inches	Michigan—Contd.	Inches	Inches	Ohio—Contd.	Inches	Inches
Carrs Ranch.....	1	.....	Marquette.....	25	16.0	Sandusky.....	T.	24.0
Pinetop.....	4	.....	Newberry.....	19	.....	Toledo.....	T.	10.5
Prescott.....	T.	.....	Port Huron.....	6	20.0	Oregon.		
California.			Saginaw.....	18	17.5	Gov't Camp.....	36	.....
Portola.....	2	.....	St. Ignace.....	18	.....	Hilgard.....	1	.....
Summit.....	7	.....	Sault Ste. Marie..	19	28.0	Pennsylvania.		
Table Rock.....	4	.....	Minnesota.			Drifton.....	8	.....
Colorado.			Collegeville.....	2	.....	Erie.....	T.	24.0
Crested Butte....	30	.....	Duluth.....	12	36.0	Greensboro.....	T.	.....
Dillon.....	17	.....	Fort Ripley.....	6	.....	Greenville.....	6	.....
Leadville.....	17	.....	Grand Meadow....	4	.....	Harrisburg.....	7	17.0
Steamboat Springs	26	.....	Leech Lake Dam..	18	.....	Hyndman.....	12	.....
Connecticut.			Minneapolis.....	2	.....	Indiana.....	10	.....
Hartford.....	10	30.0	Moorhead.....	2	28.0	Lawrenceville..	10	.....
New Haven.....	2	0.0	St. Paul.....	2	20.0	Midfintown.....	19	.....
Delaware.			Thief River Falls.	8	.....	Parkers Landing..	7	.....
Millsboro.....	2	.....	Winton.....	14	.....	Philadelphia.....	T.	.....
Wilmington.....	T.	.....	Mississippi.			Pittsburgh.....	1	.....
Dist. of Columbia.			Vicksburg.....	0	↑	Reading.....	5	0.0
Washington.....	T.	19.0	Missouri.			Scranton.....	T.	.....
Illinois.			Hannibal.....	0	12.0	Somers.....	8	.....
Antioch.....	15	.....	Kansas City.....	0	↑	Warren.....	6	.....
Chicago.....	13	.....	St. Louis.....	0	↑	Williamsport....	8	.....
New Burnside....	T.	.....	Montana.			Rhode Island.		
Peoria.....	T.	14.0	Bozeman.....	7	.....	Block Island.....	1	↑
Springfield.....	T.	.....	Butte.....	3	.....	Narragansett Pier	1	.....
Urbana.....	T.	.....	Haugan.....	7	.....	Providence.....	3	3.5
Walnut.....	7	.....	Kalispell.....	5	.....	South Dakota.		
Indiana.			Miles City.....	1	.....	Huron.....	0	26.0
Bloomington.....	2	.....	Nebraska.			Yankton.....	T.	24.0
Evansville.....	T.	↑	Omaha.....	T.	↑	Utah.		
Fort Wayne.....	1	.....	New Hampshire.			East Portal.....	30	.....
Indianapolis.....	T.	.....	Concord.....	20	20.0	Heber.....	14	.....
Marion.....	T.	.....	New Jersey.			Kelton.....	1	.....
Terre Haute.....	0	8.0	Atlantic City.....	5	.....	Logan.....	6	.....
Winona Lake.....	8	.....	Cape May.....	4	11.0	Salt Lake City....	5	.....
Iowa.			Lakewood.....	5	.....	Vermont.		
Albia.....	T.	.....	Trenton.....	2	22.0	Bellows Falls....	32	.....
Charles City.....	T.	.....	Woodbine.....	1	.....	Brattleboro.....	32	24.0
Davenport.....	T.	.....	New Mexico.			Burlington.....	19	22.0
Des Moines.....	T.	.....	Thoreau.....	4	.....	Northfield.....	30	.....
Dubuque.....	7	22.0	Tres Piedras.....	2	.....	Wells River J'n..	39	.....
Estherville.....	2	.....	New York.			White River J'n..	30	.....
Forest City.....	6	.....	Albany.....	9	15.5	Virginia.		
Keokuk.....	0	19.0	Beaver River.....	36	.....	Fredericksburg...	1	.....
Sioux City.....	T.	21.0	Binghamton.....	6	.....	Richmond.....	0	↑
Kansas.			Buffalo.....	12	28.0	Staunton.....	T.	.....
Iola.....	0	↑	Canton.....	20	.....	Wytheville.....	T.	.....
Maine.			Cazenovia.....	22	.....	Washington.		
Bangor.....	40	25.0	Cooperstown.....	19	.....	Cascade Tunnel...	80	.....
Eastport.....	32	0.0	De Ruyter.....	33	.....	Laurier.....	13	.....
Gardiner.....	30	28.0	Herkimer.....	17	.....	Stampede.....	25	.....
Greenville.....	42	34.0	Ithaca.....	4	.....	West Virginia.		
Portland.....	25	6.0	Lowville.....	30	.....	Fairmont.....	T.	.....
Maryland.			Oswego.....	20	26.0	Hinton.....	T.	.....
Baltimore.....	1	10.0	Perryburg.....	9	17.0	Parkersburg.....	0	↑
Easton.....	3	.....	Rochester.....	40	.....	Wisconsin.		
Frederick.....	14	.....	Rome.....	9	.....	Ashland.....	12	.....
Massachusetts.			Saratoga Springs..	24	.....	Brodhead.....	25	.....
Boston.....	5	0.0	Syracuse.....	7	.....	Eau Claire.....	7	.....
Holyoke.....	15	26.0	Wappingers Falls.	10	.....	Fond du Lac.....	22	.....
Nantucket.....	2	10.0	Watertown.....	19	.....	Green Bay.....	12	16.5
Turners Falls....	40	29.0	North Dakota.			La Crosse.....	4	30.0
Michigan.			Bismarck.....	7	30.0	Madison.....	6	.....
Alpena.....	12	24.0	Devils Lake.....	5	.....	Medford.....	13	.....
Calumet.....	30	.....	Williston.....	T.	24.5	Milwaukee.....	18	0.0
Detroit.....	5	23.0	Ohio.			Wausau.....	6	28.0
Escanaba.....	8	31.0	Beverly.....	1	.....	Wyoming.		
Grand Haven.....	12	.....	Cincinnati.....	T.	↑	Alta.....	26	.....
Grand Rapids....	10	.....	Cleveland.....	T.	22.0	Cheyenne.....	T.	.....
Houghton.....	21	20.5	Columbus.....	T.	.....	Dome Lake.....	30	.....
Iron River.....	8	.....	Dayton.....	T.	↑	Sheridan.....	1	.....
Ironwood.....	8	.....	Marion.....	3	.....	Valley.....	1	.....
Lansing.....	24	.....	Napoleon.....	5	.....	Wyncoke.....	1	.....
Ludington.....	16	.....				Yellowstone Park.	7	.....

* Shore ice. † Floating ice. ‡ Ice gorged. § Measurement impracticable. T. indicates trace.



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SNOW AND ICE BULLETIN.



WASHINGTON, D. C., February 19, 1918.

DEPTH OF SNOW AND THICKNESS OF ICE AT 8 P. M., FEBRUARY 18, 1918.

GENERAL REVIEW OF THE WEATHER DURING THE PAST WEEK.

Weather changes were somewhat more active than during the preceding week, particularly in the interior districts, where temperature variations were pronounced and rapid, and clear to threatening weather prevailed in quick succession.

The first two days brought precipitation, mostly light, to considerable areas from the Mississippi River eastward, and at the same time pressure was falling in the northern Mountain districts. By Thursday morning low pressure had moved to Iowa, with greatly increased intensity but without material precipitation, except to the northward of the center where light snows were falling.

This storm moved rapidly to the St. Lawrence Valley by the following morning, and precipitation, largely rain and mostly light, prevailed over the eastern districts. Some snow fell to the northward of the center of the storm-path, and high winds occurred in the Lakes region. A decided drop in temperature followed this storm, particularly in the central valleys and more northern districts, and moderately cold weather prevailed in these districts for the following day or two.

During the latter part of the week temperature changes were less marked, and cloudy, rainy weather overspread the far western districts, and more or less rain occurred over the whole of California, the amounts in some of the southern portions of that State being quite heavy, greatly relieving the drought conditions.

At the close of the week cold weather prevailed over the northern Mountain districts, but to the southward temperatures were moderately high, and warm weather for the season was general in nearly all central and eastern districts.

At the morning observation of this date the weather presents marked contrasts for the different sections. High temperatures, southerly winds, rains, and thunder-storms prevail in the Ohio and middle Mississippi Valleys and to the southward, while over the Northwest severe cold continues, and there has been a decided fall in temperature over portions of the Southwest.

DEPTH OF SNOW.

But little snow occurred during the week just closed from the Mississippi River eastward, and the depths of the snow cover over the northern districts of this region are now from 5 to 10 inches less than reported a week ago. To the southward a considerable area, snow-covered last week, is now bare.

In the middle and upper Missouri Valleys and generally over the Mountain districts of the West there was considerable snow during the week, the increases in some of the higher mountains ranging from 2 to 3 feet or more. The falls were particularly heavy in the mountains of central and northern California and at points in the elevated portions of Nevada, where the fall for the season had been phenomenally small. The amounts now on the ground are still far short of the usual depths, however, and in condition to melt rapidly with warmer weather.

The winter-wheat districts to eastward of the Rocky Mountains are now practically free of snow. The melting having been accomplished slowly as a rule, the moisture has undoubtedly entered the soil under the most favorable conditions. In the great coal-mining districts to eastward of the Mississippi the ground is mostly free of snow, and weather conditions during the week were not unfavorable for mining or transportation.

ICE IN RIVERS AND HARBORS.

Under the influence of moderately warm weather the heavy ice in the rivers of the Atlantic Coast States south of New York broke up and moved out, as a rule, without serious injury to bridges or other property, due largely to the absence of any considerable rise in river stages. In the Ohio and its tributaries gorges formed at some points, causing more or less flooding but apparently without serious damage. Considerable ice moved out of the Mississippi, and it is now open as far north as Keokuk. In the lower Lakes the ice largely disappeared from some of the harbors, but in other northern districts the conditions remain about as reported during the previous week.

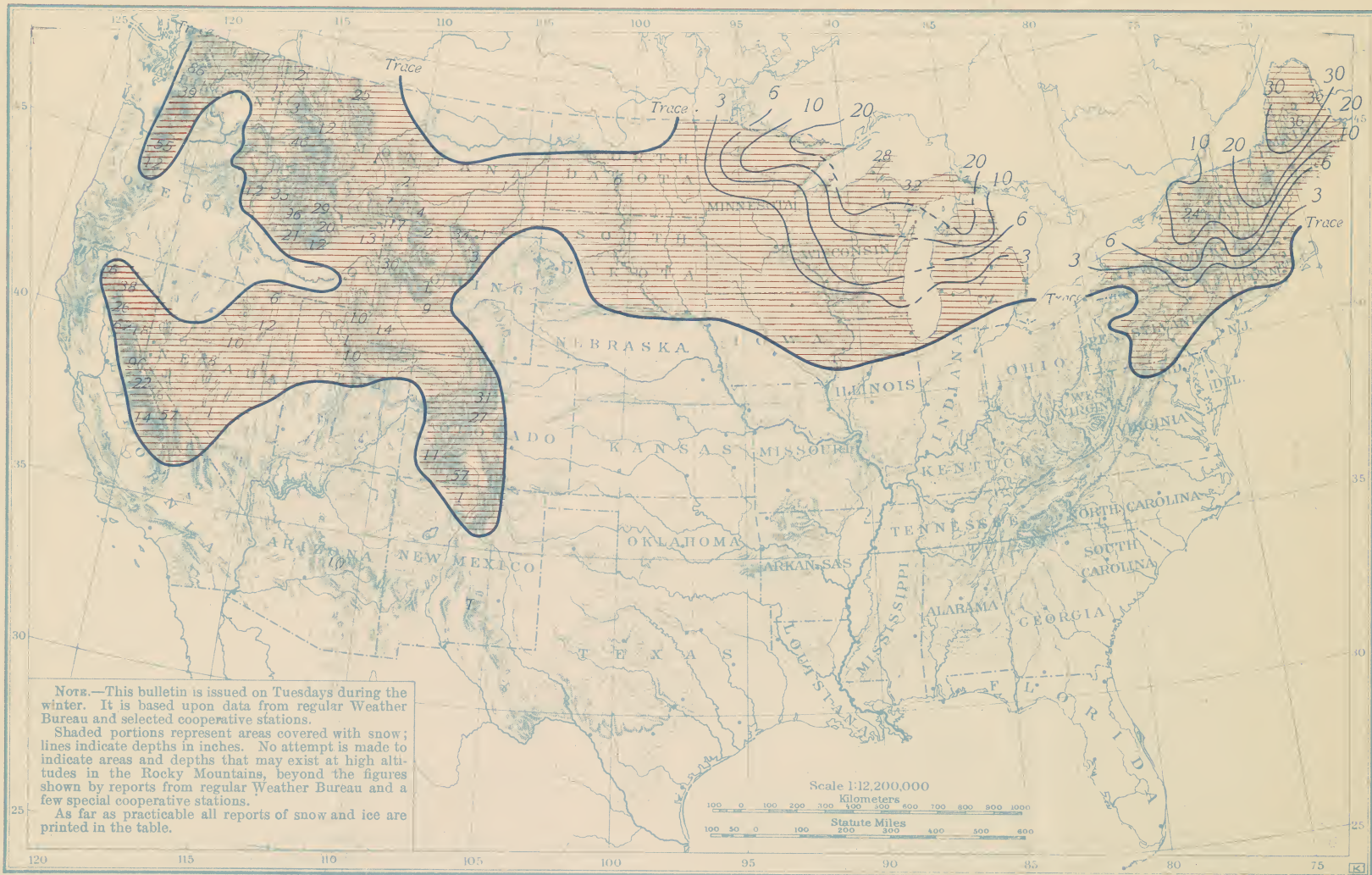
P. C. DAY, Climatologist and Chief of Division.

Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.
Arizona.	Inches	Inches	Michigan—Contd.	Inches	Inches	Ohio.	Inches	Inches
Carrs Ranch.....	10	.....	Manistee.....	17	.....	Ashland.....	T.	.....
Crown King.....	4	.....	Marquette.....	36	20.0	Cleveland.....	T.	6.5
Flagstaff.....	3	.....	Newberry.....	24	.....	Sandusky.....	T.	18.0
Williams.....	6	.....	Port Huron.....	5	20.0	Tiffin.....	T.	.....
California.			Saginaw.....	16	17.5	Toledo.....	T.	†
Inskip.....	30	.....	Sault Ste. Marie.....	21	23.0	Oregon.		
McCloud.....	10	.....	Minnesota.			Bend.....	4	.....
Portola.....	18	.....	Collegeville.....	2	.....	Condon.....	2	.....
Sierraville.....	8	.....	Duluth.....	9	36.5	Detroit.....	11	.....
Stammit.....	58	.....	Grand Meadow.....	3	.....	Gov't Camp.....	58	.....
Table Rock.....	45	.....	Leech Lake Dam.....	15	.....	Hilgard.....	5	.....
Yosemite.....	13	.....	Minneapolis.....	2	.....	Joseph.....	5	.....
Colorado.			Moorhead.....	2	27.5	Pendleton.....	T.	.....
Crested Butte.....	33	.....	St. Paul.....	2	19.5	Prairie City.....	2	.....
Cumbres.....	36	.....	Wheaton.....	3	.....	Siskiyou.....	10	.....
Dillon.....	22	.....	Worthington.....	3	.....	Sparta.....	10	.....
Leadville.....	18	.....	Missouri.			Welches.....	4	.....
Steamboat Springs.....	33	.....	Hannibal.....	0	†	Pennsylvania.		
Connecticut.			Kansas City.....	0	†	Drifton.....	2	.....
Hartford.....	2	30.0	St. Louis.....	0	†	Erie.....	T.	18.0
Dist. of Columbia.			Montana.			Harrisburg.....	1	0.0
Washington.....	0	*†	Bowen.....	6	.....	Hyndman.....	2	.....
Idaho.			Butte.....	14	.....	Reading.....	T.	.....
Hailey.....	21	.....	Findon.....	17	.....	Seranton.....	T.	.....
Ketchum.....	24	.....	Haugan.....	11	.....	Warren.....	2	.....
McCall.....	35	.....	Havre.....	3	.....	Rhode Island.		
Oxford Ranger Sta.....	47	.....	Helena.....	3	.....	Kingston.....	T.	.....
Pocatello.....	T.	.....	Kalispell.....	6	.....	Narragansett Pier.....	T.	.....
Shake Creek R. Sta.....	35	.....	Miles City.....	5	.....	Providence.....	T.	*
Soldier Creek.....	25	.....	Missoula.....	1	.....	South Dakota.		
Vienna Mine.....	98	.....	Red Lodge.....	6	.....	Huron.....	4	27.0
Illinois.			Nebraska.			Rapid City.....	3	.....
Chicago.....	T.	.....	Halsey.....	2	.....	Yankton.....	6	22.0
Urbana.....	T.	.....	North Platte.....	T.	.....	Utah.		
Indiana.			Omaha.....	T.	.....	East Portal.....	34	.....
Fort Wayne.....	T.	.....	O'Neill.....	5	.....	Kelton.....	T.	.....
Iowa.			Ravenna.....	2	.....	Logan.....	11	.....
Albia.....	1	.....	Valentine.....	2	.....	Modena.....	2	.....
Charles City.....	T.	.....	Nevada.			Salt Lake City.....	T.	.....
Creston.....	2	.....	Arthur.....	14	.....	Vermont.		
Davenport.....	1	.....	Austin.....	6	.....	Battleboro.....	22	30.0
Des Moines.....	T.	8.0	Hylton.....	8	.....	Burlington.....	16	22.0
Dubuque.....	2	20.0	McGill.....	12	.....	Northfield.....	25	.....
Estherville.....	4	.....	North Fork.....	6	.....	St. Johnsbury.....	24	.....
Forest City.....	2	.....	Tonopah.....	3	.....	Wells River J'n.....	40	.....
Iowa City.....	2	.....	New Hampshire.			Washington.		
Poehontas.....	3	.....	Bethlehem.....	23	.....	Cascade Tunnel.....	94	.....
Sioux City.....	3	20.0	Concord.....	20	20.0	Laurier.....	16	.....
Maine.			Hanover.....	21	.....	North Yakima.....	1	.....
Bangor.....	28	25.0	Keene.....	20	.....	Spokane.....	1	.....
Eastport.....	19	†	Durham.....	15	.....	Stampede.....	40	.....
Gardiner.....	27	28.0	New Jersey.			Wisconsin.		
Greenville.....	38	25.0	Cape May.....	T.	2.5	Ashland.....	11	.....
Lewiston.....	25	20.0	New Mexico.			Barron.....	10	.....
Portland.....	14	0.0	Tres Piedras.....	2	.....	Brodhead.....	15	.....
Maryland.			New York.			Eau Claire.....	5	.....
Frederick.....	2	.....	Albany.....	3	15.0	Fond du Lac.....	12	.....
Massachusetts.			Beaver River.....	32	.....	Grand Rapids.....	11	.....
Adams.....	5	.....	Binghamton.....	3	.....	Green Bay.....	10	16.5
Boston.....	2	0.0	Buffalo.....	6	23.0	La Crosse.....	3	28.0
Concord.....	7	.....	Cazenovia.....	20	.....	Madison.....	4	.....
Fitchburg.....	17	.....	Cooperstown.....	15	.....	Medford.....	8	.....
Holyoke.....	10	26.0	De Ruyter.....	20	.....	Milwaukee.....	13	0.0
Turners Falls.....	30	29.0	Ithaca.....	2	.....	Wausau.....	9	28.0
Michigan.			Lowville.....	15	.....	Wyoming.		
Alpena.....	9	26.0	Ogdensburg.....	28	.....	Alta.....	31	.....
Battle Creek.....	5	.....	Oswego.....	14	26.0	Buffalo.....	3	.....
Big Rapids.....	11	.....	Rochester.....	3	0.0	Cheyenne.....	T.	.....
Calumet.....	30	.....	Rome.....	30	.....	Dome Lake.....	30	.....
Detroit.....	1	21.0	Syracuse.....	8	.....	Lander.....	1	.....
Escanaba.....	15	31.0	Watertown.....	12	.....	Sand Lake.....	85	.....
Harrisville.....	24	.....	North Dakota.			Sheridan.....	2	.....
Houghton.....	19	16.5	Bismarck.....	9	30.0	South Pass City.....	10	.....
Iron Mountain.....	19	.....	Devils Lake.....	1	.....	Wyncote.....	T.	.....
Lansing.....	2	.....	Williston.....	1	25.0	Yellowstone Park.....	20	.....
Ludington.....	11	.....					

* Shore ice. † Floating ice. ‡ Ice gorged. § Measurement impracticable. T. indicates trace.



SNOW AND ICE BULLETIN.



WASHINGTON, D. C., February 26, 1918.

GENERAL REVIEW OF THE WEATHER DURING THE PAST WEEK.

The unsettled condition prevailing over eastern districts at the beginning of the week, referred to in the last issue of this bulletin, moved rapidly to the Atlantic coast by Wednesday morning, accompanied by general rains and thunder-storms in the South and by high winds and snow in portions of the Lakes region, Ohio Valley, and New England. At the same time unusually high pressure had overspread the Northwest, readings above 31.00 inches being reported from points in the upper Missouri Valley, and a fall in temperature ranging from 20° to 50° had occurred over a wide area from central Texas northeastward to the Lakes region.

During Thursday and Friday high pressure with clear and cold weather prevailed over central and eastern districts, while in the far West much needed rains fell in California, and warmer weather had overspread the Canadian Northwest and was moving into Montana and the Dakotas. During Saturday and Sunday general light rains or snows occurred over the Pacific Coast States and portions of the Plateau and Rocky Mountain regions, and there was a general warming up over nearly all parts of the country.

At the morning observation of Monday, February 25, marked changes had developed; low pressure and cloudy, threatening weather prevailed from the middle Plains region northeastward to the upper Lakes, with more or less rain or snow to the westward, while high pressure and colder weather had overspread the greater part of the Plateau and Rocky Mountain regions. At the close of the week the low pressure had moved to the Lakes region, developing into a storm of marked intensity, attended by rain and thunder-storms to the southward, by snow in the region of Lake Superior, and by high winds over the lower Lakes.

DEPTH OF SNOW.

The depth of snow cover over the districts to the eastward of the Rocky Mountains was materially reduced during the week just closed, but the area having some cover is not much less than was shown on the chart for the preceding week.

In the mountains of central and northern California there appears to have been considerable snow during the week just closed, the increase at points amounting to 3 feet or more. As a result there is some improvement in the outlook for water during the coming summer, although the condition of the snow at the present time will permit of its rapid melting unless unusually cold weather prevails late into the spring. In other portions of the western mountain districts there was a general reduction of the depth of the snow cover, except at a few points in Colorado and Wyoming.

Some snow occurred during the week in portions of the winter-wheat States to eastward of the Rocky Mountains, particularly in the Ohio Valley and over the more northern districts, but it soon disappeared and there is now very little snow in any portion of the area.

In the principal coal-mining districts of the Central and Eastern States the ground is free of snow, and weather conditions were mostly favorable for the successful operation of the mines and the prompt transportation of their products.

ICE IN RIVERS AND HARBORS.

Due to moderate cold over the more northern districts some additional ice formed, but as a rule there was more or less breaking up and moving out of the ice in the streams of the southern districts where ice still remains.

In the Mississippi the ice has largely disappeared as far north as Davenport, Iowa, and in the Missouri as far north as Omaha. The Ohio River and its tributaries appear clear of ice, and similar conditions prevail in the rivers of the Atlantic coast south of the Hudson.

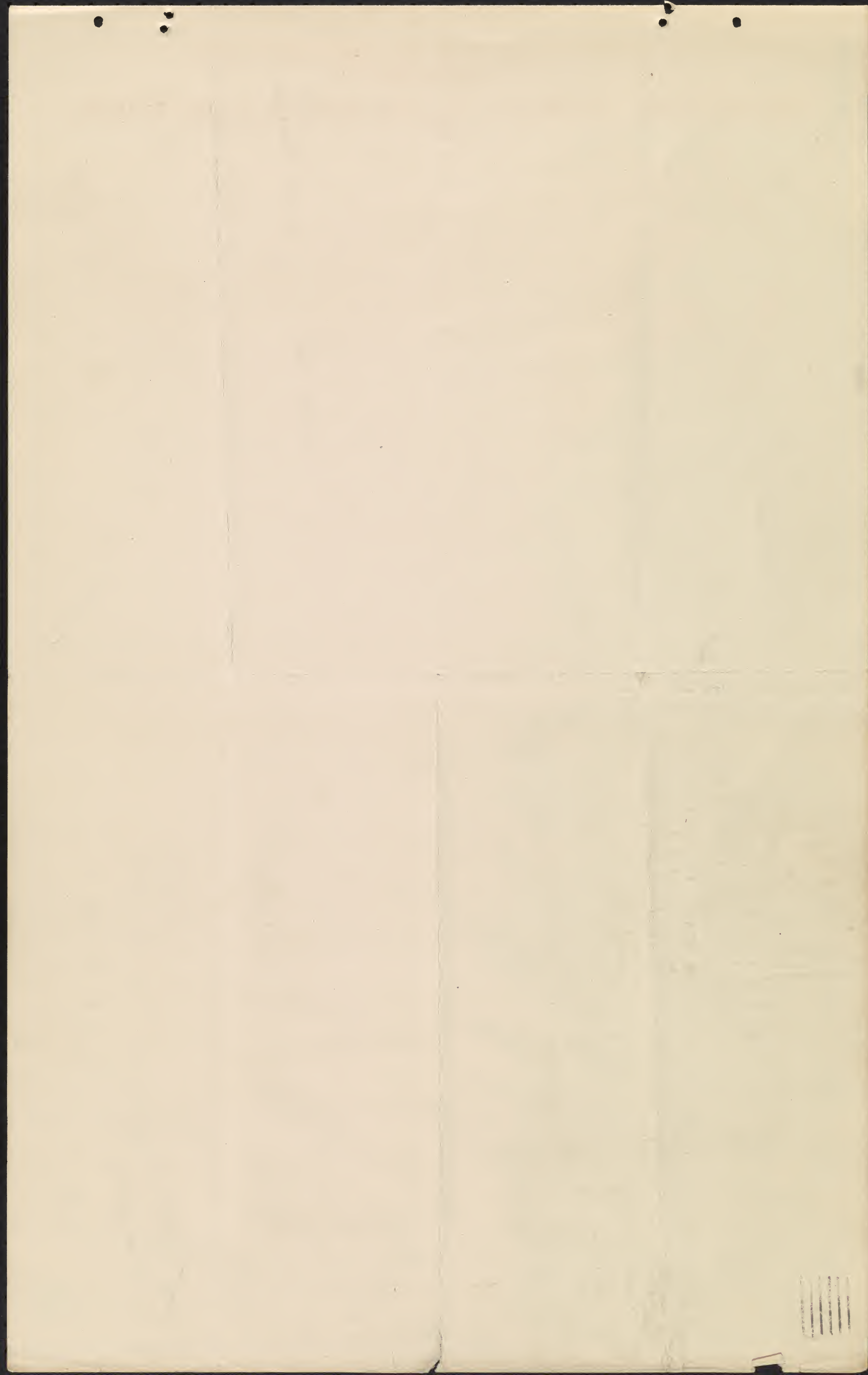
In New England the ice remains practically intact on all the rivers and lakes, and there has been but little change in the conditions previously reported over the Great Lakes and the upper portions of the Missouri and Mississippi Rivers and their tributaries.

P. C. DAY, Climatologist and Chief of Division.

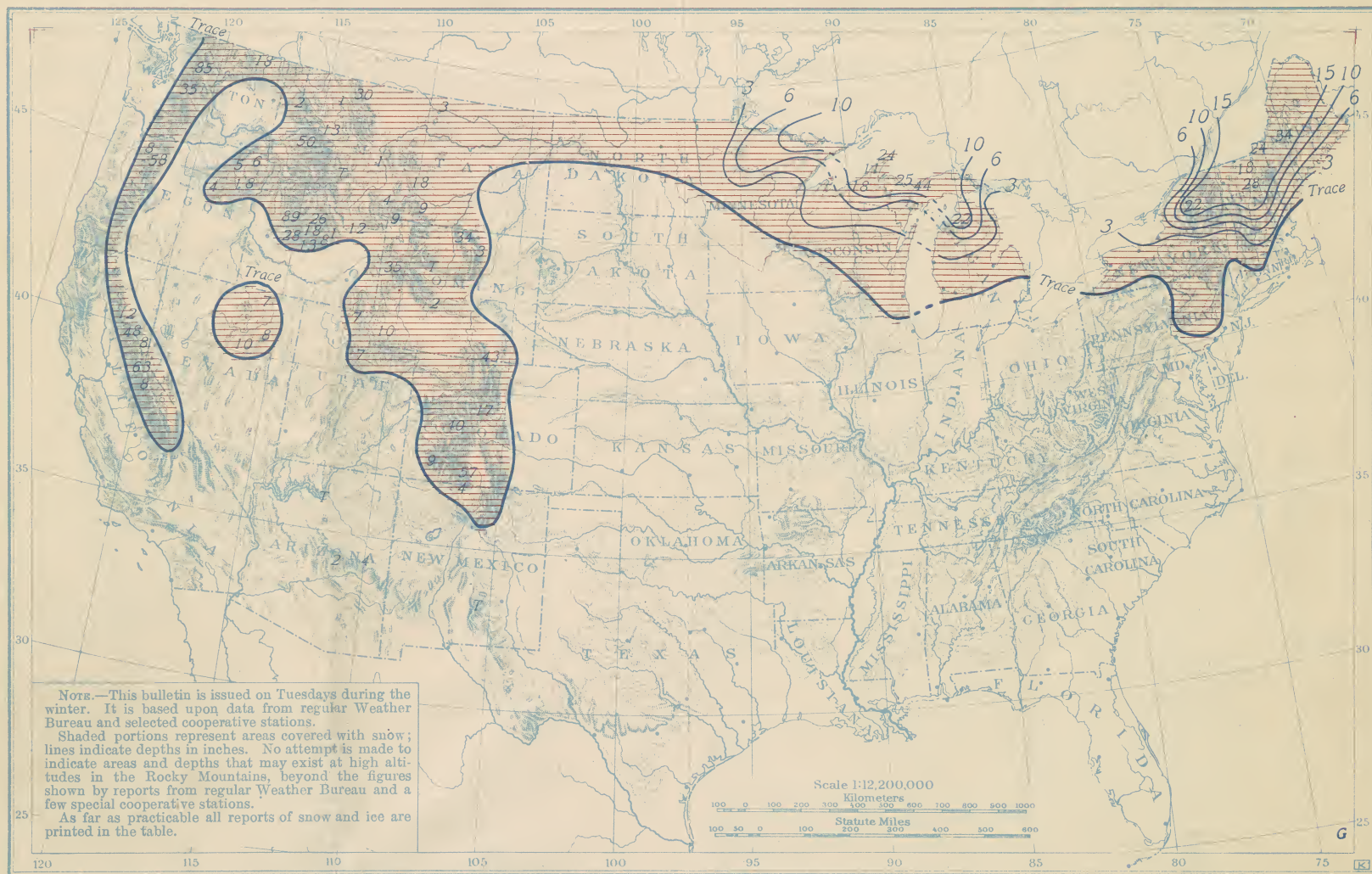
DEPTH OF SNOW AND THICKNESS OF ICE AT 8 P. M., FEBRUARY 25, 1918.

Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.
<i>Arizona.</i>	<i>Inches</i>	<i>Inches</i>	<i>Michigan—Contd.</i>	<i>Inches</i>	<i>Inches</i>	<i>North Dakota.</i>	<i>Inches</i>	<i>Inches</i>
Carrs Ranch.....	10	.....	Harrisville.....	18	.....	Bismarck.....	6	28.0
<i>California.</i>			Houghton.....	14	14.0	Devils Lake.....	T.	.....
Cascade.....	14	.....	Iron Mountain.....	10	.....	Williston.....	T.	25.0
Huntington Lake.....	57	.....	Iron River.....	22	.....	<i>Ohio.</i>		
Inskip.....	38	.....	Lansing.....	T.	.....	Cincinnati.....	0	3.0
McCloud.....	6	.....	Ludington.....	6	.....	Sandusky.....	0	7.5
Portola.....	26	.....	Mancelona.....	24	.....	Toledo.....	0	+
Sierraville.....	18	.....	Marquette.....	32	24.0	<i>Oregon.</i>		
Summit.....	90	.....	Newberry.....	19	.....	Detroit.....	12	.....
Table Rock.....	62	.....	Port Huron.....	T.	20.0	Gov't Camp.....	55	.....
Yosemite.....	22	.....	Saginaw.....	1	17.5	Hilgard.....	3	.....
<i>Colorado.</i>			Sault Ste. Marie.....	22	25.0	Prairie City.....	1	.....
Cumbres.....	57	.....	<i>Minnesota.</i>			Sparta.....	12	.....
Dillon.....	31	.....	Collegeville.....	T.	.....	Welches.....	3	.....
Leadville.....	27	.....	Duluth.....	4	36.5	<i>Pennsylvania.</i>		
Rico.....	11	.....	Fort Ripley.....	2	.....	Drifton.....	1	.....
<i>Connecticut.</i>			Grandy.....	T.	.....	Harrisburg.....	T.	0.0
Hartford.....	T.	26.0	Leech Lake Dam.....	12	.....	Huntingdon.....	T.	.....
<i>Idaho.</i>			Minneapolis.....	T.	.....	Hyndman.....	T.	.....
Boise.....	T.	.....	Moorhead.....	T.	25.0	Mifflintown.....	T.	.....
Hailey.....	18	.....	St. Paul.....	T.	18.5	Parkers Landing.....	T.	.....
Ketchum.....	20	.....	Wheaton.....	T.	.....	Reading.....	T.	0.0
McKay.....	5	.....	<i>Missouri.</i>			<i>Rhode Island.</i>		
McCall.....	33	.....	St. Joseph.....	0	+	Block Island.....	T.	+
North Star Mine.....	12	.....	St. Louis.....	0	+	Kingston.....	2	.....
Oxford Ranger Sta.....	46	.....	<i>Montana.</i>			Narragansett Pier.....	T.	.....
Pocatello.....	T.	.....	Bozeman.....	7	.....	Providence.....	0	+
Shake Creek R. Sta.....	29	.....	Findon.....	21	.....	<i>South Dakota.</i>		
Soldier Creek.....	21	.....	Glacier Park.....	25	.....	Huron.....	T.	28.0
Spencer.....	13	.....	Haugan.....	12	.....	Yankton.....	T.	18.0
Vienna Mine.....	96	.....	Helena.....	1	.....	<i>Utah.</i>		
Wallace.....	3	.....	Miles City.....	1	.....	Heber.....	10	.....
<i>Illinois.</i>			Red Lodge.....	4	.....	Logan.....	10	.....
Antioch.....	T.	.....	<i>Nebraska.</i>			Salt Lake City.....	1	.....
Chicago.....	T.	.....	Omaha.....	0	?	<i>Vermont.</i>		
<i>Iowa.</i>			Valentine.....	T.	.....	Bellows Falls.....	18	.....
Charles City.....	T.	.....	<i>Nevada.</i>			Brattleboro.....	16	32.0
Davenport.....	T.	.....	Arthur.....	12	.....	Burlington.....	9	28.5
Des Moines.....	0	.....	Austin.....	8	.....	Northfield.....	15	.....
Dubuque.....	T.	.....	Hylton.....	10	.....	St. Johnsbury.....	21	.....
Estherville.....	T.	.....	McGill.....	1	.....	Wells River.....	30	.....
Iowa City.....	T.	.....	North Fork.....	6	.....	White River J'n.....	20	.....
Keokuk.....	0	+	Tonopah.....	1	.....	<i>Washington.</i>		
Pocahontas.....	T.	.....	<i>New Hampshire.</i>			Cascade Tunnel.....	86	.....
Sioux City.....	T.	18.0	Bethlehem.....	14	.....	Laurier.....	17	.....
<i>Maine.</i>			Concord.....	9	19.0	Spokane.....	1	.....
Bangor.....	20	24.0	Hanover.....	19	.....	Stampede.....	39	.....
Cornish.....	24	.....	Keene.....	14	.....	<i>Wisconsin.</i>		
Eastport.....	10	+	<i>New Mexico.</i>			Barron.....	6	.....
Gardiner.....	24	27.0	Cloudcroft.....	T.	.....	Eau Claire.....	4	.....
Greenville.....	34	37.5	Tres Piedras.....	1	.....	Fond du Lac.....	8	.....
Houlton.....	36	.....	<i>New York.</i>			Grand Rapids.....	7	.....
Lewiston.....	18	20.0	Albany.....	T.	?	Green Bay.....	5	16.0
Millinocket.....	36	.....	Beaver River.....	1	.....	Madison.....	1	.....
Portland.....	4	0.0	Binghamton.....	3	.....	Medford.....	10	.....
<i>Maryland.</i>			Buffalo.....	3	23.0	Milwaukee.....	4	0.0
Frederick.....	T.	.....	Canton.....	1	.....	Park Falls.....	7	.....
<i>Massachusetts.</i>			Cazenovia.....	12	.....	Rhinelander.....	18	.....
Amherst.....	5	.....	Ithaca.....	T.	.....	Wausau.....	6	28.0
Fitchburg.....	5	.....	Malone.....	6	.....	<i>Wyoming.</i>		
Holyoke.....	3	25.0	Ogdensburg.....	20	.....	Alta.....	30	.....
Turners Falls.....	12	18.0	Oswego.....	8	24.0	Buffalo.....	3	.....
<i>Michigan.</i>			Plattsburg.....	14	.....	Cheyenne.....	1	.....
Alpena.....	5	26.0	Rome.....	20	.....	Dome Lake.....	34	.....
Big Rapids.....	5	.....	Saranac Lake.....	15	.....	Dubois.....	2	.....
Bloomington.....	1	.....	Syracuse.....	1	.....	Evanston.....	14	.....
Cadillac.....	28	.....	Wappingers Falls.....	2	.....	Lander.....	T.	.....
Escanaba.....	10	32.0	Warwick.....	T.	.....	Sheridan.....	1	.....
Grand Haven.....	T.	.....	Watertown.....	4	.....	South Pass City.....	9	.....
Grand Rapids.....	1	.....				Yellowstone Park.....	17	.....

* Shore ice. † Floating ice. ‡ Ice gorged. § Measurement impracticable. T. indicates trace.



SNOW AND ICE BULLETIN.



WASHINGTON, D. C., March 5, 1918.

GENERAL REVIEW OF THE WEATHER DURING THE PAST WEEK.

The rapid changes noted in the weather during the week ending February 25 were followed by more stable conditions, and the weather during the week just closed has been markedly free from the stormy conditions usually expected with the closing days of the last winter month and the entrance of the spring period.

The storm central over the Lakes region, referred to in the last issue, had moved to the northward of New England by Tuesday morning with moderate falls of rain or snow over a large area from the middle and upper Mississippi Valleys eastward. Following this storm, colder weather prevailed over eastern districts, but by Wednesday morning temperatures were generally near the normal and fair weather prevailed over nearly all parts of the country.

During the following few days the weather continued fair, save that a storm of limited area brought local heavy rains in the lower Missouri and middle Mississippi Valleys and lighter amounts of rain or snow over limited adjoining areas on Thursday and Friday.

The latter part of the week was marked by unusual warmth over portions of the Northwest and by generally clear and pleasant weather over the remaining portions.

DEPTH OF SNOW.

There was practically no increase in the depth of snow in any part of the country, save at a few points in the far Northwest, and the area now snow-covered is considerably less than was reported a week ago. The only sections now having a material covering are the northern portions of New York and New England, the more northern portions of the upper Lakes region, and the mountain districts of the West.

Due to the moderately warm weather the freshly-fallen snow over the California mountains melted and settled quite rapidly, and the depths in the central portions of the Sierra Nevada are now from 10 to 30 inches less than were reported last week. Considerable snow disappeared from the central Rocky Mountain districts, but farther north in these mountains the melting was less rapid and a few local increases are noted.

The copious rains over much of California and portions of the adjoining States during the latter part of February greatly improved the water supply and the general agricultural outlook, while farther north the moderate weather and general absence of frost from the ground favored the development of the winter grain crops and permitted plowing and other farm activities.

In the winter grain-growing sections to eastward of the Rocky Mountains the weather of the week was generally moderate, and the absence of any material rainfall favored the gathering of corn still in the fields and the taking up of other farm activities.

In the spring wheat region the snow has largely disappeared, but it is improbable the ground has thawed sufficiently to permit plowing. The weather over the great coal mining districts to eastward of the Rocky Mountains continued favorable for all mining and transportation operations.

ICE IN RIVERS AND HARBORS.

Moderately warm weather favored the gradual breaking up of the ice in most of the rivers where it remained at the close of last week, except in the Hudson and the rivers of New England and at a few points in the upper Missouri where it still remains intact. The Mississippi is open as far as St. Paul, and no ice remains on the main streams of the Atlantic coast south of the Hudson.

Ice conditions over the several Great Lakes are indicated by the following special report from Detroit:

In Lake Superior there are extensive ice fields over the entire lake, slowly moving eastward. Portions of the St. Marys River are frozen over and the ice is still heavy in Green Bay. There are extensive ice fields in Lake Michigan, particularly along the east shore from St. Joseph northward to the Straits, where

DEPTH OF SNOW AND THICKNESS OF ICE AT 8 P. M., MARCH 4, 1918.

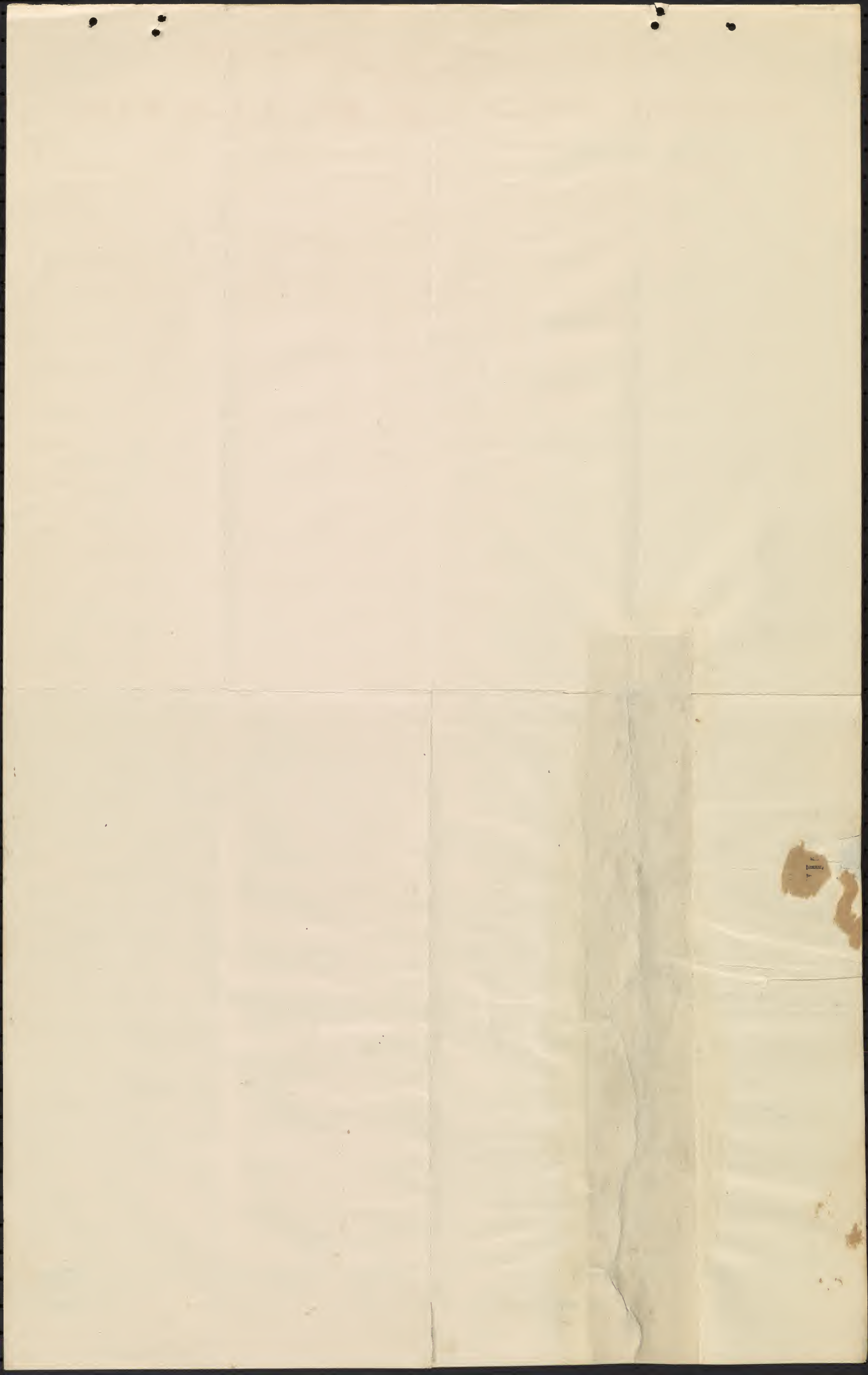
Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.
<i>Arizona.</i>	<i>Inches</i>	<i>Inches</i>	<i>Michigan—Contd.</i>	<i>Inches</i>	<i>Inches</i>	<i>North Dakota.</i>	<i>Inches</i>	<i>Inches</i>
Carrs Ranch.....	2		Ludington.....	3		Bismarck.....	0	26.0
Grand Canyon.....	T.		Mancelona.....	22		Devils Lake.....	T.	
Pinetop.....	4		Marquette.....	25	18.0	Williston.....	T.	
<i>California.</i>			Newberry.....	17		<i>Ohio.</i>		
Portola.....	12		Port Huron.....	T.	19.0	Sandusky.....	0	†
Sierraville.....	8		Saginaw.....	T.	17.0	<i>Oregon.</i>		
Summit.....	63		St. Ignace.....	8		Baker.....	1	
Table Rock.....	48		Sault Ste. Marie.....	19	26.0	Gov't Camp.....	58	
Yosemite.....	8		<i>Minnesota.</i>			Hilgard.....	5	
<i>Colorado.</i>			Duluth.....	T.	36.0	Joseph.....	6	
Crested Butte.....	40		Fort Ripley.....	T.		Prairie City.....	4	
Cumbres.....	57		Leech Lake Dam.....	8		Sparta.....	8	
Leadville.....	17		Moorhead.....	T.	22.0	Welches.....	8	
Leadville.....	17		St. Paul.....	T.	*	<i>Pennsylvania.</i>		
Rico.....	9		Thief River Falls.....	T.		Harrisburg.....	T.	0.0
<i>Connecticut.</i>			Winton.....	14		Philadelphia.....	T.	0.0
Hartford.....	T.	‡	<i>Missouri.</i>			Reading.....	T.	0.0
New Haven.....	T.	0.0	St. Joseph.....	0	*†	Seranton.....	T.	
<i>Idaho.</i>			<i>Montana.</i>			<i>South Dakota.</i>		
Hailey.....	13		Bozeman.....	4		Huron.....	0	24.5
Ketchum.....	18		Butte.....	T.		Yankton.....	0	‡
Mackay.....	1		Findon.....	18		<i>Utah.</i>		
North Star Mine.....	8		Glacier Park.....	30		Heber.....	7	
Oxford Ranger Sta.....	50		Haugan.....	13		Logan.....	7	
Shake Creek R. Sta.....	26		Havre.....	8		<i>Vermont.</i>		
Soldier Creek.....	28		Helena.....	1		Bellows Falls.....	15	
Spencer.....	12		Kalispell.....	1		Brattleboro.....	12	29.0
Vienna Mine.....	89		Red Lodge.....	9		Northfield.....	14	
Wallace.....	2		<i>Nebraska.</i>			St. Johnsbury.....	18	
<i>Illinois.</i>			Omaha.....	0	†	Wells River.....	28	
Antioch.....	T.		<i>Nevada.</i>			White River J'n.....	15	
Walnut.....	T.		Arthur.....	8		<i>Washington.</i>		
<i>Iowa.</i>			Hylton.....	10		Cascade Tunnel.....	85	
Des Moines.....	0		North Fork.....	7		Laurier.....	17	
Dubuque.....	0		Winnemucca.....	T.		Stamper.....	39	
Sioux City.....	0		<i>New Hampshire.</i>			<i>Wisconsin.</i>		
<i>Maine.</i>			Bethlehem.....	12		Barron.....	4	
Bangor.....	12	24.0	Concord.....	8	18.0	Fond du Lac.....	3	
Eastport.....	5	0.0	Durham.....	4		Grand Rapids.....	1	
Gardiner.....	16	25.0	Hanover.....	16		Green Bay.....	T.	15.0
Greenville.....	94	36.5	W. Stewartstown.....	24		La Crosse.....	0	‡
Lewiston.....	12	21.0	<i>New Mexico.</i>			Madison.....	T.	
Portland.....	3	0.0	Cloudercroft.....	T.		Medford.....	4	
<i>Massachusetts.</i>			Tres Piedras.....	4		Milwaukee.....	T.	
Amherst.....	3		<i>New York.</i>			Park Falls.....	4	
Fitchburg.....	4		Albany.....	T.	‡	Rhineland.....	6	
Holyoke.....	T.		Beaver River.....	22		Wausau.....	T.	14.0
<i>Michigan.</i>			Binghamton.....	1		<i>Wyoming.</i>		
Alpena.....	1	30.0	Buffalo.....	1	21.0	Alta.....	35	
Big Rapids.....	1		Canton.....	1		Buffalo.....	3	
Cadillac.....	4		Herkimer.....	4		Cheyenne.....	T.	*
Calumet.....	24		Ithaca.....	T.		Dome Lake.....	34	
Chatham.....	44		Lowville.....	6		Dubois.....	T.	
Escanaba.....	4	32.0	Ogdensburg.....	6		Evanston.....	10	
Grand Haven.....	T.		Oswego.....	4	25.0	Fox Park.....	43	
Grand Rapids.....	T.		Rome.....	12		Sheridan.....	T.	
Harrisville.....	12	16.0	Syracuse.....	T.		South Pass City.....	12	
Houghton.....	11		Watertown.....	2		Yellowstone Park.....	9	
Ironwood.....	18							

* Shore ice. † Floating ice. ‡ Ice gorged. § Measurement impracticable. T. indicates trace.

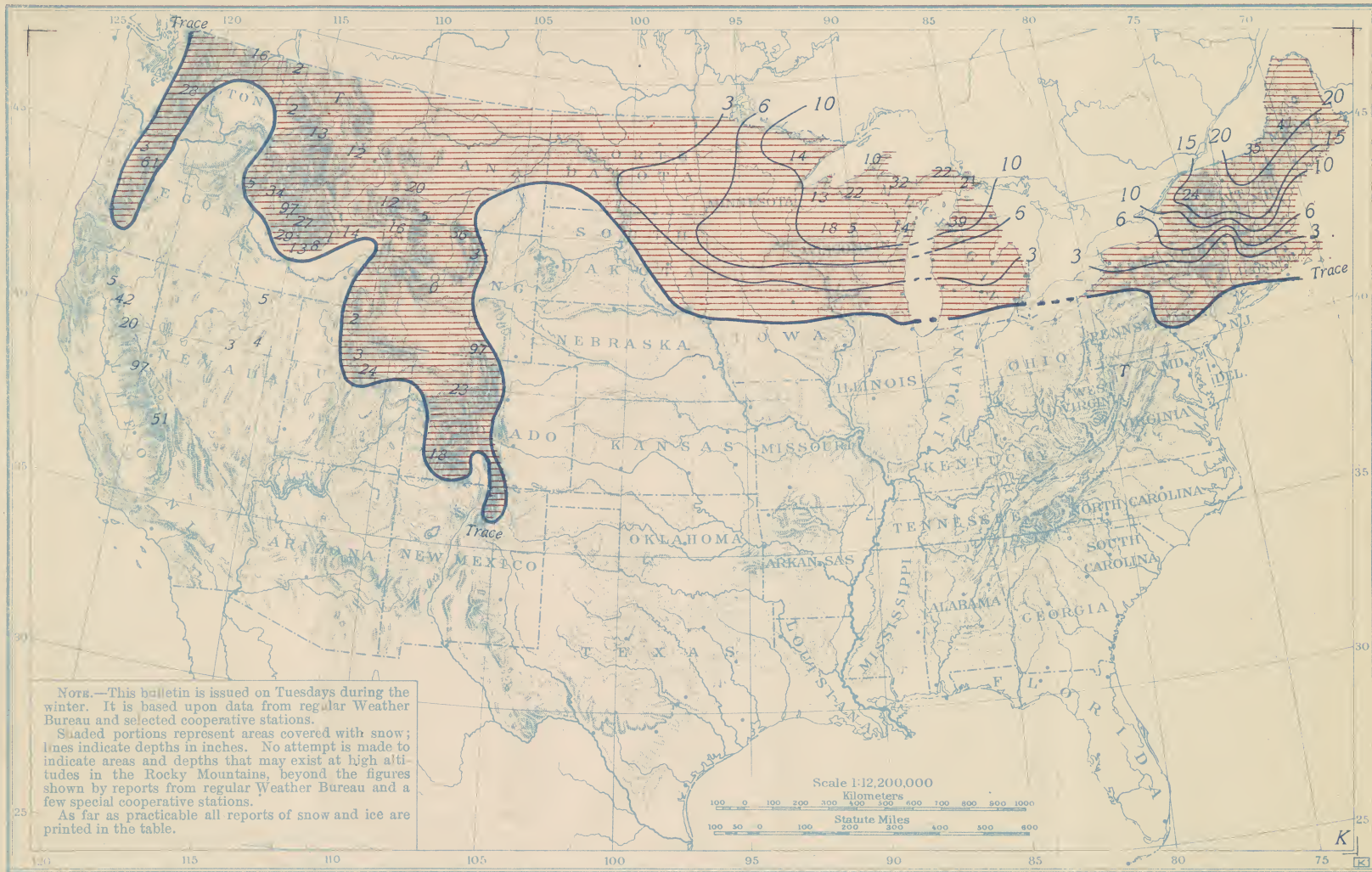
the ice is solid and smooth. Lake Huron is covered with extensive fields, except the south portion which is open. The St. Clair and Detroit Rivers are open, and Lake St. Clair is partly open. There are ice fields over the extreme west portion of Lake Erie, but the Lake is open from the Islands eastward to Ashtabula, but thence eastward to Buffalo extensive fields are present. There are only a few fields in the western portion of Lake Ontario, but over the central and eastern portions they are heavy and extensive. Ice conditions in Lake Superior are about the same as at this season last year; there is less ice in Lakes Michigan, Huron, and Erie, but somewhat more in Lake Ontario.

P. C. DAY, Climatologist and Chief of Division.

DO NOT RISK HAVING A POOR CORN CROP BY USING UNTESTED SEED.



SNOW AND ICE BULLETIN.



WASHINGTON, D. C., March 12, 1918.

DEPTH OF SNOW AND THICKNESS OF ICE AT 8 P. M., MARCH 11, 1918.

GENERAL REVIEW OF THE WEATHER DURING THE PAST WEEK.

Low barometric pressure with more or less cloudy, rainy weather prevailed over all eastern and southern districts at the beginning of the week, while in the Northwest a cold wave had advanced into the upper Missouri Valley and northern Rocky Mountains district.

As the week advanced the cloudy weather drifted to the Atlantic seaboard, and by the middle of the week fair and cold weather prevailed in most districts, except in the Plateau region where unsettled weather had developed and rain had again set in over California and portions of the far Southwest.

By Saturday morning the Plateau disturbance had moved to the lower Missouri Valley, developing into a storm of wide extent and considerable severity, with more or less rain or snow to the northward of its center from the Lakes region westward. During Saturday the storm moved rapidly eastward with increased force and by Sunday morning it had reached the middle Atlantic coast, accompanied by high winds and general to heavy rains over most central and eastern districts, with considerable snow in the Lakes region and thence northeastward to New England. In portions of its course, particularly in the middle Mississippi and Ohio Valleys and the lower Lakes region, severe local storms occurred, and high winds prevailed during Sunday over nearly all portions of the Atlantic Coast States. Cold and clear weather closely followed the storm, and freezing temperatures were reported Monday morning in the northern portion of the Gulf States.

At the same time pressure was falling in the far West with general rains or snows in the Plateau and Pacific Coast States, the rainfall being heavy in portions of southern California, where local falls amounting to nearly two inches were reported.

DEPTH OF SNOW.

Heavy snow fell during the latter part of the week over much of the upper Lakes region and in northern New England, but it rapidly settled, or melted to some extent, so that at the close the depths over those reported last week were generally not more than 4 to 8 inches, except locally where they were 12 inches or more. In North Dakota and portions of the northern Rocky Mountains, particularly in the vicinity of the Yellowstone Park, there were considerable increases, and at points in the mountains of central California the increases during the week ranged from 1 to nearly 3 feet.

The area now snow covered has not materially changed from that of a week ago, and where no snow occurred the depths previously reported were not materially reduced.

Heavy snow still persists in central and northern New England and in the Adirondack Mountains of New York, and about the average depths for the season remain on the ground in the upper Lakes region.

General precipitation in California and portions of the Southwest has greatly improved the outlook for a satisfactory water supply for early summer needs at least.

No material precipitation occurred during the week over the winter wheat-growing States between the Mississippi River and Rocky Mountains, but to the eastward there was more or less rain over the northern districts. A considerable portion of the eastern spring-wheat region is still snow covered, and on account of continued cold it is improbable that any progress was made toward seeding.

In the great coal mining districts to eastward of the Rocky Mountains the weather continued favorable for operating the mines and distributing the products.

ICE IN RIVERS AND HARBORS.

Only slight changes were reported in the amounts of ice on the rivers and lakes of the far northern districts as compared with the preceding week, and but little change is noted in its condition.

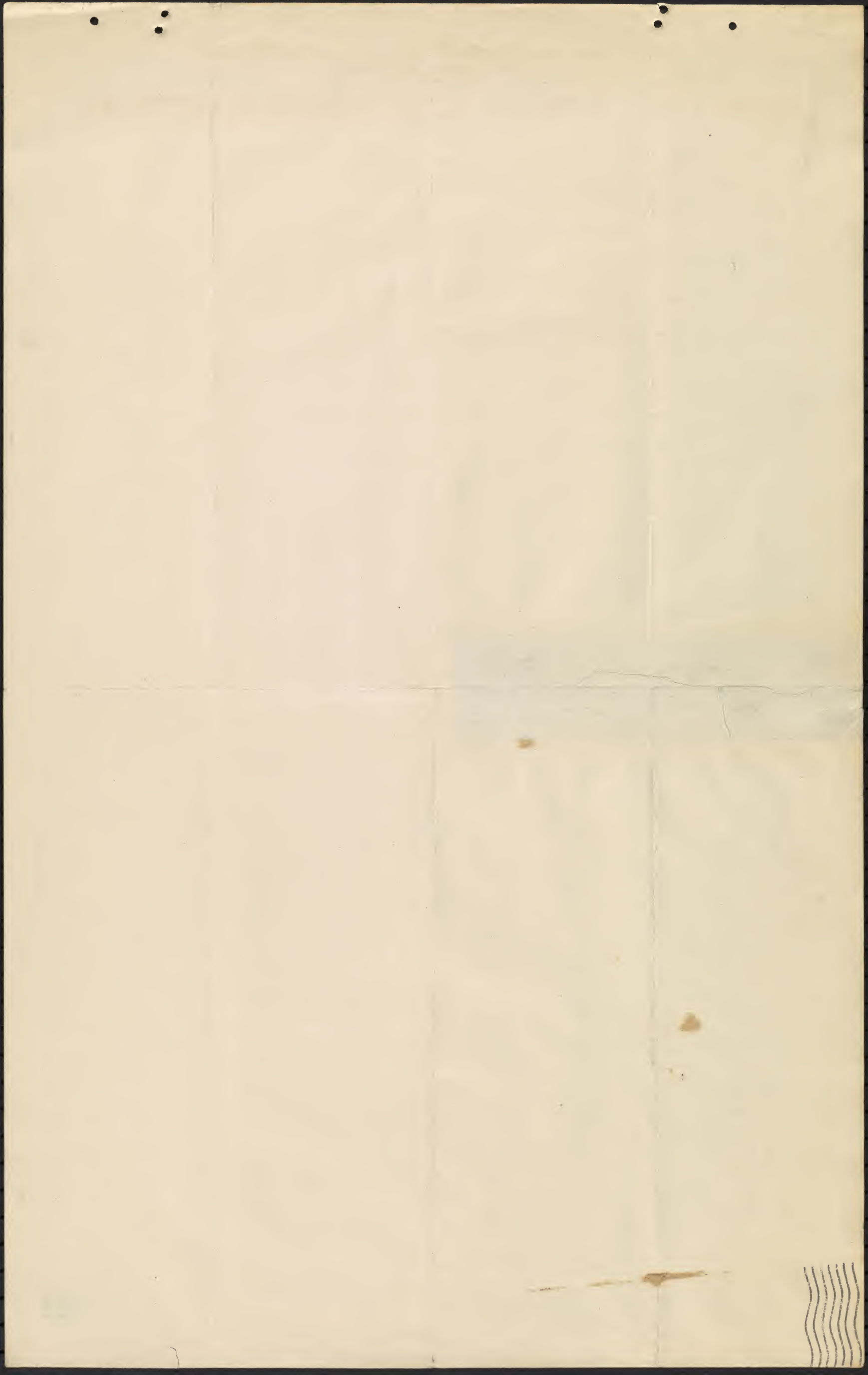
Stations.				Stations.				Stations.			
Snow.		Ice in rivers, harbors, etc.		Snow.		Ice in rivers, harbors, etc.		Snow.		Ice in rivers, harbors, etc.	
Inches		Inches		Inches		Inches		Inches		Inches	
California.											
Huntington Lake.	51			Iron River.	8			New York—Contd.			
Inskip.	42			Ironwood.	22			Rome.	8		
McCloud.	5			Lansing.	T.			Saratoga Springs.	18		
Portola.	20			Ludington.	4			Syracuse.	2		
Summit.	97			Mancelona.	39			Wappingers Falls.	1		
Colorado.				Marquette.	32	28.0		Watertown.	5		
Rico.	18			Newberry.	22			North Dakota.			
Steamboat Springs.	23			Port Huron.	2	17.0		Bismarck.	3	28.0	
Connecticut.				Sault Ste. Marie.	21	26.0		Devils Lake.	T.		
Hartford.	1	2		Minnesota.				Williston.	T.		
New Haven.	T.	0.0		Canby.	12			Oregon.			
Idaho.				Duluth.	6	36.0		Gov't Camp.	61		
Hailey.	13			Fort Ripley.	6			Sparta.	5		
Ketchum.	25			Grandy.	5			Welches.	3		
Mackay.	1			Grand Meadow.	4			Pennsylvania.			
McCall.	34			International Falls.	10			Drifton.	T.		
North Star Mine.	8			Leech Lake Dam.	6			Erie.	T.	0.0	
Porthill.	2			Minneapolis.	8			Harrisburg.	T.	0.0	
Shake Creek R. Sta.	27			Moorhead.	2	20.0		Reading.	T.	0.0	
Soldier Creek.	29			St. Paul.	7	†		Seranton.	T.		
Spencer.	14			Winthrop.	7			Rhode Island.			
Vienna Mine.	97			Winton.	14			Block Island.	T.	0.0	
Wallace.	2			Worthington.	5			Kingston.	2		
Illinois.				Montana.				Narragansett Pier.	T.		
Antioch.	T.			Bozeman.	12			Providence.	1	0.0	
Iowa.				Findon.	20			South Dakota.			
Charles City.	T.			Hat Creek.	12			Huron.	1	22.0	
Des Moines.	0			Haugan.	13			Yankton.	T.	†	
Dubuque.	T.			Kalispell.	T.			Utah.			
Estherville.	1			Miles City.	T.			East Portal.	24		
Forest City.	T.			Red Lodge.	5			Heber.	3		
Mason City.	1			Nebraska.				Logan.	2		
Maine.				Omaha.	0	†		Vermont.			
Bangor.	13	24.0		Nevada.				Bellows Falls.	20		
Eastport.	19	†		Arthur.	4			Brattleboro.	18	26.0	
Gardiner.	19	22.0		Hylton.	3			Burlington.	20	21.0	
Greenville.	41	38.0		North Fork.	5			Northfield.	23		
Lewiston.	18	21.0		New Hampshire.				St. Johnsbury.	26		
Portland.	9	0.0		Bethlehem.	16			Wells River.	30		
Maryland.				Concord.	12	18.0		White River J'n.	16		
Oakland.	T.			Hanover.	25			Washington.			
Massachusetts.				Keene.	16			Laurier.	16		
Adams.	4			W. Stewartstown.	35			Stampede.	23		
Boston.	5	0.0		New York.				Wisconsin.			
Concord.	6			Albany.	1	2		Barron.	11		
Mansfield.	4			Beaver River.	24			Delavan.	1		
Nantucket.	T.	0.0		Binghamton.	T.			Grand Rapids.	3		
Turners Falls.	13	22.0		Buffalo.	6	16.0		Green Bay.	12	8.0	
Michigan.				Canton.	6			La Crosse.	2	16.0	
Alpena.	7	30.0		Cazenovia.	9			Madison.	1		
Battle Creek.	T.			De Ruyter.	10			Medford.	13		
Big Rapids.	5			Herkimer.	4			Milwaukee.	2	0.0	
Cadillac.	26			Ithaca.	T.			Park Falls.	13		
Detroit.	T.	0.0		Lowville.	8			Wausau.	5	10.0	
Escanaba.	8	32.0		Malone.	15			Wyoming.			
Grand Haven.	2			Ogdensburg.	13			Buffalo.	3		
Grand Rapids.	10	14.0		Oswego.	5	26.0		Dome Lake.	36		
Houghton.	10			Plattsburg.	16			Sand Lake.	97		
Iron Mountain.	14			Rochester.	4	0.0		Yellowstone Park.	16		

*Shore ice. †Floating ice. ‡Ice gorged. §Measurement impracticable. T. indicates trace.

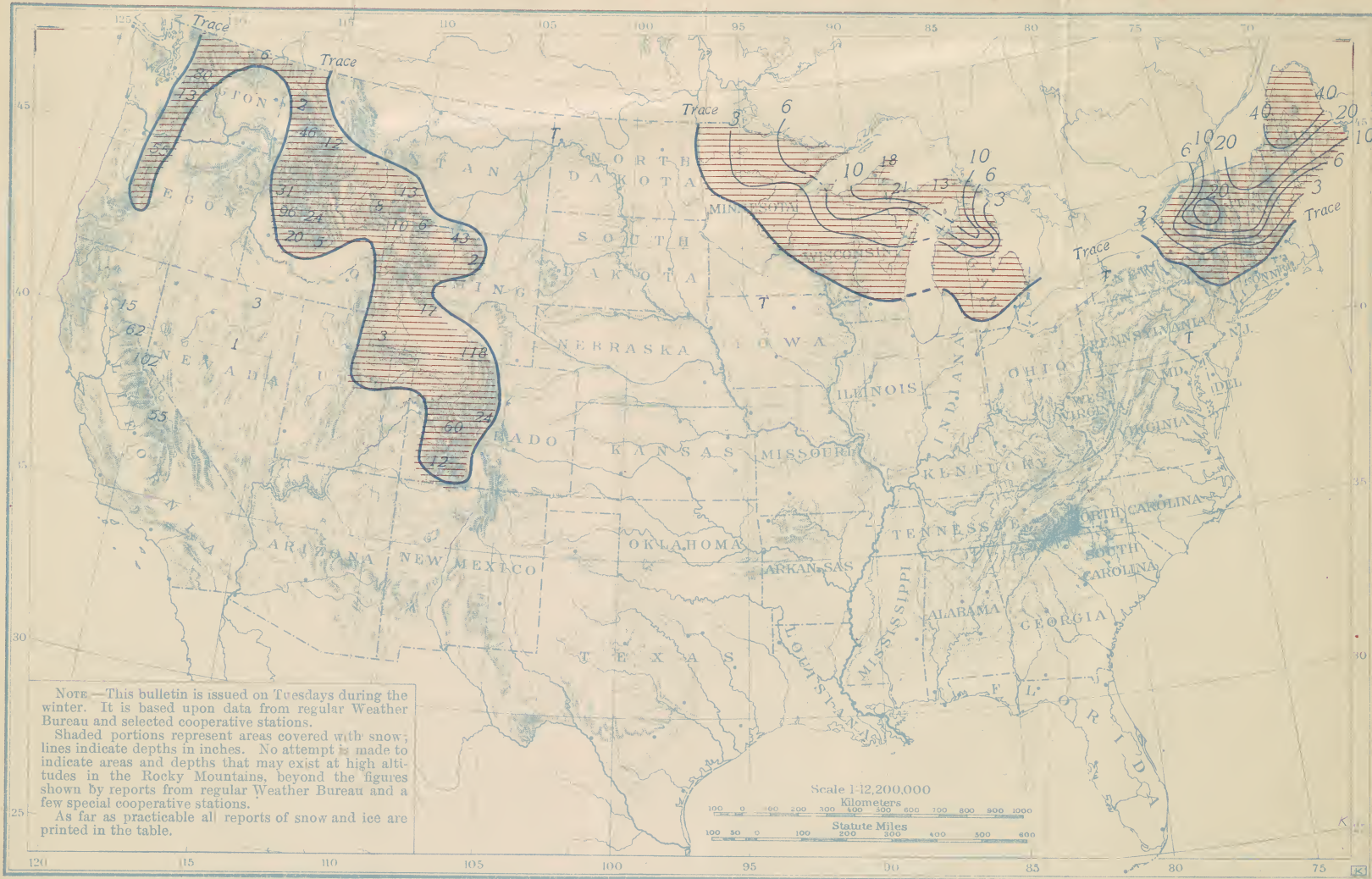
Ice conditions over the several Great Lakes are indicated by the following special report from Detroit, dated March 12, 1918:

There are extensive and heavy ice fields over Lake Superior, with little movement. St. Marys River and Green Bay are frozen over. The west and south shores of Lake Michigan are free of ice, but ice fields extend from St. Joseph north along the east shore to Mackinaw. Over Lake Huron the fields are extensive and heavy, but there is open water in the extreme south portion. St. Clair River and Lake St. Clair are partially open, and there are only a few fields in the western portion of Lake Erie; but from Ashtabula, Ohio, to Buffalo extensive fields remain, which is also the case in the eastern portion of Ontario. Compared with this date last year, there is less ice in Lakes Michigan and Erie, about the same in Superior and Huron, but more in Ontario.

P. C. DAY, Climatologist and Chief of Division.



SNOW AND ICE BULLETIN.



WASHINGTON, D. C., March 19, 1918.

GENERAL REVIEW OF THE WEATHER DURING THE PAST WEEK.

Moderately cold weather over the Atlantic coast districts at the close of the preceding week was quickly followed by rising temperature, and by Tuesday morning fair and warm weather for the season prevailed in nearly all districts. During the following 24 hours low pressure developed in the middle Plateau region, and by Wednesday morning a storm of considerable intensity was central over Kansas and Nebraska, and rain or snow had fallen over much of the Mountain and Plateau regions to the westward.

This storm moved to the lower Lakes region and thence off the New England coast during the following two days, but without marked development, although thunder-storms and heavy rains occurred in portions of the Ohio Valley, Lakes region, and thence eastward, and snow was reported to the northward of the center.

During the progress of this storm eastward somewhat cooler weather followed, but on the whole the temperatures during the first half of the week were nearly everywhere above normal or only slightly below.

The latter half of the week was remarkably free from rain, and temperatures continued moderate in all districts and were above normal in most interior portions of the country.

At the close of the week generally fair weather prevailed in all parts of the country, except for local rains in Florida and at points in the far West, and temperatures were generally above the seasonal average, particularly so in the Missouri Valley where they were as much as 30° above.

DEPTH OF SNOW.

Some snow occurred during the week over the more northern districts from the Great Lakes eastward, and locally in the western mountains, but no increase in depth was apparent at the close, save in a few instances. In the absence of warm rains no rapid melting of the remaining snow cover occurred, and while the depths are nearly everywhere less than a week ago, the snow-covered area has not been greatly reduced. In the interior of northern New England the snow is still from 2 to nearly 4 feet in depth, and in the Adirondacks region of New York the ground continues deeply covered. In the upper Lakes region the melting has been somewhat more rapid, and only in the immediate vicinity of Lake Superior is there any considerable depth remaining.

In the mountain regions of the West there were local increases in the depth at points in Colorado and Utah, and over considerable areas in the higher elevations of California; elsewhere there were substantial decreases in the amounts as compared with last week.

The moderately warm weather so far during March and the general absence of large amounts of rain or snow over the principal agricultural districts has permitted rapid preparation for the usual spring farming operations.

In the wheat-growing districts the unusually favorable weather has doubtless greatly improved the outlook for winter grains, although there has been but little rain since the early days of the month over important areas devoted to wheat from Kansas southward into Texas.

The snow has practically disappeared from the important spring-wheat sections, and the favorable weather has afforded opportunity for progress in preparation for spring seeding.

In the South conditions have been favorable for spring-truck operations and preparation of the soil for corn and cotton.

ICE IN RIVERS AND HARBORS.

The breaking up of the ice in the rivers and lakes of the more northern districts proceeded slowly, and, save in New England and

DEPTH OF SNOW AND THICKNESS OF ICE AT 8 P. M., MARCH 18, 1918.

Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.
<i>California.</i>	<i>Inches</i>	<i>Inches</i>	<i>Michigan—Contd.</i>	<i>Inches</i>	<i>Inches</i>	<i>New York—Contd.</i>	<i>Inches</i>	<i>Inches</i>
Huntington Lake.....	55		Grand Rapids.....	T.		Plattsburg.....	12	
Portola.....	15		Harrisville.....	10		Rome.....	4	
Summit.....	102		Houghton.....	6	11.0	Saranac Lake.....	20	
Table Rock.....	62		Iron Mountain.....	2		Syracuse.....	T.	
<i>Colorado.</i>			Ironwood.....	15		<i>North Dakota.</i>		
Crested Butte.....	60		Ludington.....	1		Bismarek.....	0	28.0
Leadville.....	24		Maple Ridge.....	14		Williston.....	T.	
Rico.....	12		Marquette.....	21	0.0	<i>Oregon.</i>		
<i>Connecticut.</i>			Newberry.....	13		Gov't Camp.....	55	
Hartford.....	0	†	Port Huron.....	T.	*	<i>Pennsylvania.</i>		
<i>Idaho.</i>			Saginaw.....	T.	†	Harrisburg.....	T.	0.0
Hailey.....	8		St. Ignace.....	5		<i>South Dakota.</i>		
Ketchum.....	14		Sault Ste. Marie.....	14	25.0	Huron.....	0	16.5
McCall.....	31		<i>Minnesota.</i>			<i>Utah.</i>		
North Star Mine.....	5		Duluth.....	T.	36.0	East Portal.....	32	
Oxford Ranger Sta.....	46		Leech Lake Dam.....	4		<i>Vermont.</i>		
Shake Creek R. Sta.....	24		Minneapolis.....	T.		Bellows Falls.....	10	
Soldier Creek.....	20		Moorhead.....	0		Burlington.....	12	23.5
Spencer.....	9		St. Paul.....	T.	†	Northfield.....	18	
Vienna Mine.....	96		Winton.....	7		St. Johnsbury.....	24	
Wallace.....	2		<i>Montana.</i>			Wells River.....	24	
<i>Iowa.</i>			Bozeman.....	8		White River J'n.....	14	
Dubuque.....	0	†	Findon.....	13		<i>Washington.</i>		
Forest City.....	T.		Haugan.....	12		Cascade Tunnel.....	80	
<i>Maine.</i>			Red Lodge.....	6		Laurier.....	6	
Bangor.....	12	23.0	<i>Nevada.</i>			Stampede.....	13	
Eastport.....	17	0.0	Hylton.....	1		<i>Wisconsin.</i>		
Gardiner.....	15	25.0	North Fork.....	3		Eau Claire.....	4	
Greenville.....	44	30.0	<i>New Hampshire.</i>			Fond du Lac.....	T.	
Lewiston.....	10	20.0	Bethlehem.....	14		Grand Rapids.....	2	
Millinocket.....	41		Concord.....	5	18.0	Green Bay.....	T.	2.0
Portland.....	3	0.0	Durham.....	1		La Crosse.....	0	
<i>Massachusetts.</i>			Hanover.....	16		Medford.....	3	
Adams.....	T.		Keene.....	8		Milwaukee.....	T.	0.0
Amherst.....	T.		W. Stewartstown.....	35		Park Falls.....	6	
Fitchburg.....	2		<i>New York.</i>			Wausau.....	T.	8.0
Holyoke.....	T.	13.0	Albany.....	T.	†	<i>Wyoming.</i>		
Turners Falls.....	8	20.0	Buffalo.....	T.	15.0	Alta.....	34	
<i>Michigan.</i>			Canton.....	3		Buffalo.....	2	
Alpena.....	1	30.0	Herkimer.....	3		Dome Lake.....	43	
Battle Creek.....	T.		Lowville.....	6		Evanston.....	3	
Big Rapids.....	1		Malone.....	2		Sand Lake.....	118	
Calumet.....	18		Ogdensburg.....	5		South Pass City.....	17	
Escanaba.....	T.	32.0	Oswego.....	0	22.0	Yellowstone Park.....	10	

*Shore ice. †Floating ice. ‡Ice gorged. §Measurement impracticable. T. indicates trace.

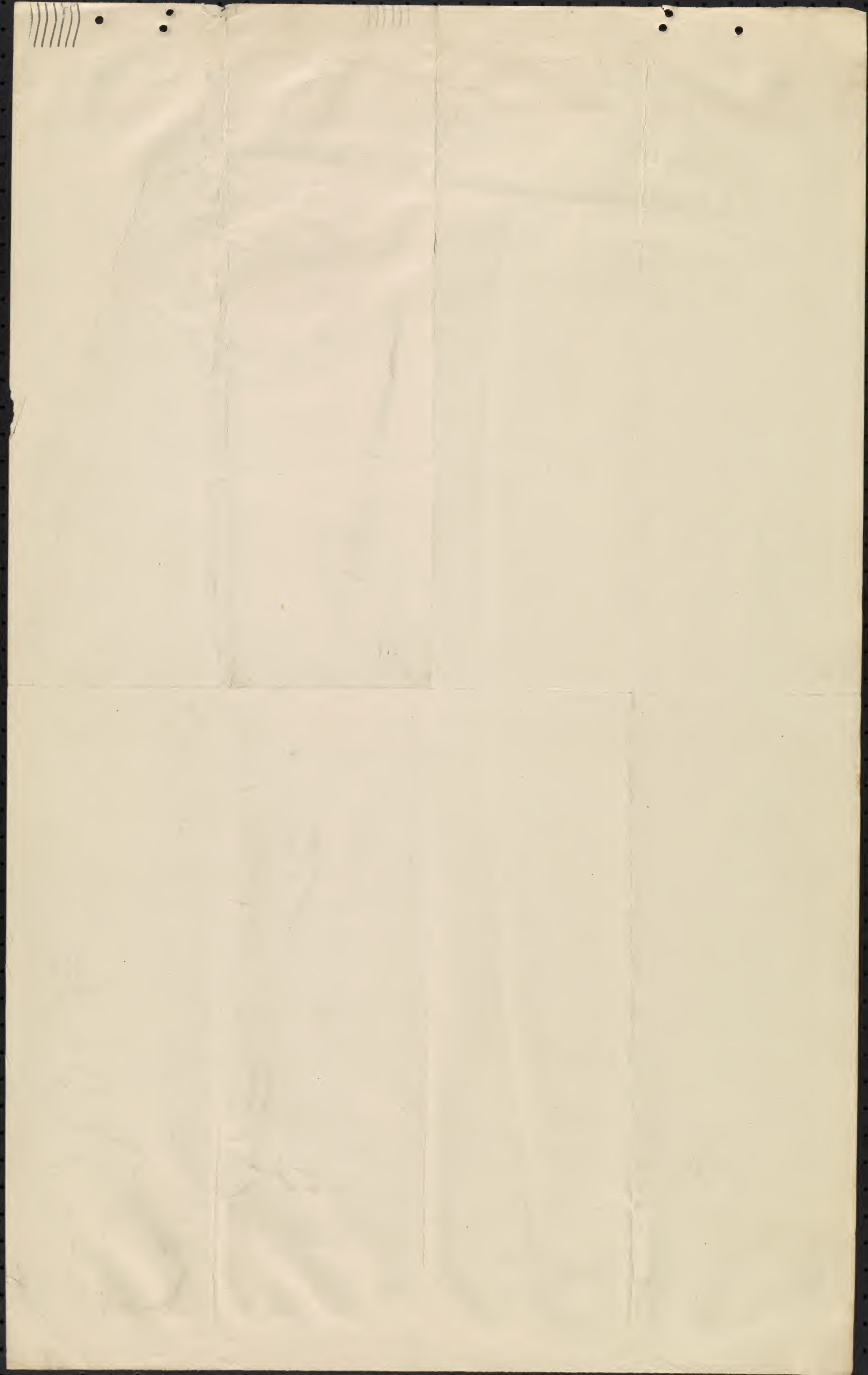
at a few points on the upper Missouri, the rivers are now open throughout their navigable courses. In New England but little change in the ice conditions appears, and the rivers are still closed, except in the lower Connecticut.

Ice conditions over the several Great Lakes are indicated by the following special report from Detroit, dated March 19, 1918:

There has been no change in ice conditions over Lake Superior; the fields are still moving over the eastern and central portions. Also, conditions remain unchanged in St. Marys River and Green Bay. Over Lake Michigan the fields along the east shore are moving offshore, although extending from St. Joseph northward to Mackinaw. The ice over the northern portion of Huron has moved southward, where extensive fields are reported. The St. Clair River is open to St. Clair, and the ice is running out of Lake St. Clair. Western Lake Erie is open, but a heavy field extends from Ashtabula, Ohio, to Buffalo, and there is also heavy ice over the eastern portion of Ontario. Compared with this time last year, ice conditions in Lakes Superior and Michigan are about the same; there is less ice in Huron and Erie, but more in Ontario.

P. C. DAY, Climatologist and Chief of Division.

DO NOT RISK HAVING A POOR CORN CROP BY USING UNTESTED SEED.



W3775

SNOW AND ICE BULLETIN.



WASHINGTON, D. C., March 26, 1918.

DEPTH OF SNOW AND THICKNESS OF ICE AT 8 P. M., MARCH 25, 1918.

GENERAL REVIEW OF THE WEATHER DURING THE PAST WEEK.

No storms of wide extent prevailed in any portion of the country during the week just closed, and temperatures were on the whole well above the seasonal average.

Local rains occurred over the Southeastern States during the early part of the week and gradually extended northeastward along the immediate Atlantic coast as the week advanced, the falls becoming heavy at a few points. At the same time light showers occurred over small areas in the far West, and local snows were reported from points in the southern Rocky Mountain system. During Saturday and Sunday light rains and thunder-storms occurred locally from the middle and lower Mississippi Valleys northeastward to the middle Atlantic coast. Elsewhere the week was practically without rain, and at the close fair weather prevailed in all districts, except in the far Northwest where light rain was falling.

Temperatures during the week were mostly above the normal, particularly so in the interior districts during the first half, and in the far Northwest during the latter half. Moderately cool weather overspread the central and southern districts during the latter part of the week, and at the close the weather was moderately cold over the Southeastern States.

In the winter grain-growing States the weather during the past week continued favorable; in fact since early in February, although there has been little snow cover, the moderate weather has afforded unusual opportunity for growing crops to overcome the adverse conditions existing in certain localities at the beginning of the winter season.

High winds appear to have been notably absent during much of the spring so far, and the soil moisture is probably sufficient for present needs, save in portions of the southern districts to westward of the Mississippi River.

In the eastern spring wheat region the absence of rainfall permitted uninterrupted progress with preparation for seeding, and similar conditions prevailed over much of the Southern States, where outdoor work was possible during the greater part of the week.

DEPTH OF SNOW.

Some snow fell in the western Mountain regions during the week, but in only a few instances were the accumulated depths greater than at the end of the preceding week. In New England the depth of the cover decreased materially, and there is now little left in the Adirondacks, save at the higher elevations. In the Lake Superior region the ground is very generally bare, the melting during the week having been quite rapid.

The depth of the snow cover in the mountains of the West is decidedly less than a week ago and only the higher elevations and protected slopes are now covered.

As a rule, the accumulated depths at the close of the snow season in these regions is materially less than usual, except in the more northern districts. In the mountains of California and the adjoining portions of Oregon and Nevada, the winter's snowfall, as a whole, has been far less than usual, and much of that now on the ground was received late in the season, and therefore in condition to quickly melt with the advent of warm weather.

Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.	Stations.	Snow.	Ice in rivers, harbors, etc.
California.	Inches	Inches	Michigan—Contd.	Inches	Inches	New York.	Inches	Inches
Huntington Lake.	49	.....	Big Rapids.	T.	.....	Albany.	0	↑
Portola.	5	.....	Calumet.	T.	.....	Buffalo.	T.	12.0
Summit.	86	.....	Escanaba.	0	29.0	Canton.	T.	.....
Colorado.	.....	.....	Iron Mountain.	T.	.....	Ithaca.	T.	.....
Cumbres.	49	.....	Iron River.	T.	.....	Plattsburg.	6	.....
Leadville.	13	.....	Ironwood.	T.	.....	North Dakota.	.....	.....
Rico.	6	.....	Manistee.	5	.....	Williston.	0	↑
Idaho.	.....	.....	Marquette.	5	8.0	Oregon.	.....	.....
Hailey.	3	.....	Newberry.	12	.....	Gov't Camp.	49	.....
McCall.	17	.....	Saginaw.	T.	0.0	Vermont.	.....	.....
Oxford Ranger Sta.	39	.....	Sault Ste. Marie.	T.	24.0	Brattleboro.	0	‡
Shake Creek R. Sta.	19	.....	Duluth.	0	28.0	Burlington.	2	19.0
Soldier Creek.	20	.....	Montana.	.....	.....	Northfield.	6	.....
Spencer.	1	.....	Bozeman.	4	.....	St. Johnsbury.	10	.....
Vienna Mine.	94	.....	Findon.	2	.....	Washington.	.....	.....
Maine.	.....	.....	Glacier Park.	16	.....	Cascade Tunnel.	86	.....
Cornish.	12	.....	Hat Creek.	3	.....	Laurier.	T.	.....
Eastport.	4	0.0	Haugan.	6	.....	Stamper.	5	.....
Gardiner.	8	22.0	Red Lodge.	1	.....	Wisconsin.	.....	.....
Greenville.	36	36.0	Nebraska.	.....	.....	Park Falls.	T.	.....
Lewiston.	5	15.0	Arthur.	2	.....	Wausau.	0	↑
Millinocket.	34	.....	New Hampshire.	.....	.....	Wyoming.	.....	.....
Portland.	1	0.0	Bethlehem.	7	.....	Dome Lake.	34	.....
Massachusetts.	T.	.....	Concord.	T.	15.0	South Pass City.	10	.....
Holyoke.	T.	.....	Hanover.	6	.....	Yellowstone Park.	1	.....
Michigan.	.....	.....	Alpena.	T.	24.0	W. Stewartstown.	14	.....

* Shore ice. † Floating ice. ‡ Ice gorged. § Measurement impracticable. T. indicates trace.

In Arizona and New Mexico reports indicate that the higher mountains are mostly bare, a condition unusual so early in the season.

ICE IN RIVERS AND HARBORS.

Except in portions of the Great Lakes and in the interior of New England the ice has disappeared from the principal lakes and rivers reporting ice at the close of last week. Both the Mississippi and the Missouri Rivers are now free of ice throughout their navigable courses, but over portions of the upper Lakes and in the interior of New England ice to the thickness of 15 inches to 2 feet or more remains intact.

Ice conditions over the several Great Lakes are indicated by the following special report from Detroit, dated March 26, 1918:

There is no change in the ice in Lake Superior, except that it is decreasing in thickness, and conditions in St. Marys River and Green Bay are about the same as last week. In Lake Michigan there are broken ice-fields along the east shore from South Haven to Frankfort, but the ice is solid from Frankfort to Mackinaw, and extensive fields remain in Lake Huron. The St. Clair River is open to Algonac and ice has been running out of Lake St. Clair during the week. Only a few fields remain in western Erie, but extensive fields are present from Conneaut Harbor to Buffalo, and likewise in eastern Ontario. Compared with this time last year, there is less ice in Lakes Superior, Michigan, and Erie, but more in Huron and Ontario.

P. C. DAY, Climatologist and Chief of Division.

NOTE.—This will be the last bulletin of this series for the season of 1917-18.

Bulletins showing the condition of the ice in the Great Lakes will probably be issued from the Weather Bureau office in Detroit, Mich., for several weeks. Copies may be secured by addressing that office.

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